

# INVESTIGATING EMERGENT MODELS OF PSYCHOPATHY

A Dissertation

by

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## ABSTRACT

The dominant conceptualization of psychopathic personality (psychopathy) in the field today, the Psychopathy Checklist-Revised (PCL-R) places significant weight on antisocial and criminal behaviors in conjunction with relatively less emphasis on constructs such as fearlessness and other personality characteristics (e.g., interpersonal dominance) that many theorists consider inherent to this disorder. The present study is one of the first to compare emergent models of psychopathy that differ from the PCL-R model in terms of their emphasis on core traits they postulate as essential to conceptualizing psychopathy. More specifically, this project is the first to concurrently investigate among a sample of male inmates (a) the Triarchic Model of psychopathy, which emphasizes traits indicative of “Boldness,” (b) the six dynamic domains of the Comprehensive Assessment of Psychopathic Personality Disorder (CAPP), which places greater weight on interpersonal characteristics (e.g., dominance) than behavioral components (e.g., aggression), as well as (c) the PCL-R model. Results from this study provide information regarding the extent to which emerging models of psychopathy converge (and diverge) with an established measure of psychopathy within an inmate sample.

## DEDICATION

To my grandfather, Robert Virgil Toney, who encouraged my love of reading and who faithfully inspired me to persevere in my endeavors and to always believe in myself.

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## INTRODUCTION

What are the defining features that represent the construct of psychopathy? Despite decades of research, theorists have struggled to arrive at a clear consensus regarding the core features of psychopathic personality disorder, with some (e.g., Lykken, 1995) highlighting the centrality of constructs such as fearlessness and others (e.g., McCord & McCord, 1964) emphasizing the importance of traits such as interpersonal manipulation and predatory behavior. Notably, “even within scientific circles, a good deal of uncertainty persists about what psychopathy is and is not” (Skeem, Polaschek, Patrick, & Lilienfeld, 2011, p. 96). Importantly, the legal and practical implications associated with a designation of psychopathic personality necessitate further research regarding the as of yet agreed upon central features of this disorder.

The dominant conceptualization of this disorder in the field today is Hare’s model operationalized by the Psychopathy Checklist-Revised (PCL-R; Hare, 2003), which construes psychopathy as a combination of affective and interpersonal characteristics in combination with a history of engaging in a socially deviant lifestyle (e.g., impulsive, irresponsible) and criminal behaviors. This model strongly emphasizes the importance of criminal and antisocial conduct and places relatively less weight on constructs such as fearlessness and other personality characteristics (e.g., interpersonal dominance) that many theories historically have considered essential to this construct



(Cleckley, 1976; Cooke, Hart, Logan, & Michie, 2004; Lykken, 1995; Patrick, Fowles, & Krueger, 2009).

### **Psychopathy: A Construct Distinct from ASPD?**

In preparation for the publication of the third edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-III; APA, 1980), efforts were made to improve the reliability of the psychopathy diagnosis by emphasizing observable, socially deviant behaviors and a stable developmental trajectory beginning with a childhood onset (Skeem et al., 2011). Although DSM-III criteria for ASPD were primarily behaviorally based, subsequent revisions have placed a greater emphasis on the inclusion of personality criteria (e.g., lack of remorse). DSM-5 currently defines Antisocial Personality Disorder as a disorder characterized by “deceitfulness,” “aggressiveness,” “reckless disregard for safety of self or others,” and a “lack of remorse” (American Psychiatric Association, 2000, p. 706), among other features.

However, many contend that the ASPD diagnosis persists in inadequately representing the construct of psychopathy (e.g., Gacono, Loving, & Boldhodt, 2001; Ogloff, 2006; Skeem & Cooke, 2010a). Indeed, Gacono and colleagues stated that “assigning an ASPD label no longer says anything about whether an individual is psychopathic in the traditional sense” (p. 19). Supporting this comment is a vast body of research that has focused on psychopathy as incorporating certain core characteristics that are relatively distinct from the diagnostic criteria for ASPD (Edens, Poythress, Lilienfeld, & Patrick, 2008; Falkenbach, Poythress, Falki, & Manchak, 2007; Gacono et al., 2001; Hare, 2003; Lilienfeld & Andrews, 1996; Lilienfeld & Widows, 2005; Ogloff,

2006; Patrick, Edens, Poythress, Lilienfeld, & Benning, 2006; Vaughn, Edens, Howard, & Smith, 2009). Indeed, the ostensibly adaptive traits (e.g., low anxiety; lack of suicidal behaviors; socially facile demeanor) identified in Cleckley's (1941) classic treatise on psychopathy (described below) are noticeably absent from the ASPD diagnostic criteria. Patrick, Venables, and Drislane (2013) asserted that these adaptive features, when found in conjunction with externalizing behaviors, differentiate ASPD from psychopathy.

The prevalence of ASPD has been found to be drastically higher (50-80%) than the prevalence of psychopathy (15-25%), as measured by the Psychopathy Checklist-Revised (PCL-R; Hare, 2003), in incarcerated offender samples. While studies have shown that many people high in psychopathy also can be diagnosed with ASPD, far fewer people with ASPD merit a psychopathy diagnosis according to PCL-R scores (Hare, 2003; Ogloff, 2006). An additional perspective is that the threshold for ASPD is too easily met, particularly in correctional populations. For example, people with substance use diagnoses, likely readily meet at least three of the criteria merely through the repetitive process of acquiring and using illegal substances to the detriment of other relationships and responsibilities (e.g., impulsivity, pervasive irresponsibility, engaging in illegal behaviors, lying or manipulative behaviors). Perhaps if remorselessness were a mandatory criterion for ASPD, the diagnosis might more closely approximate the psychopathy construct. Although large-scale studies based on item response theory analyses of ASPD symptoms and PCL-R items have yet to be conducted, such analyses would help address the question regarding the extent to which psychopathy is an extreme but overlapping variant of ASPD.

## **Seminal Historical Models of Psychopathy: Hervey Cleckley**

The seminal model of psychopathy, introduced by Hervey Cleckley, was developed while working with psychiatric inpatients. Based on his observations of psychopathic patients, Cleckley (1976) proposed 16 features that he conceived to be inherent to the construct. The first of these, *superficial charm and good “intelligence,”* described a personable, initially likeable demeanor that “looks like the real thing” (i.e., as opposed to ingratiating, unctuous interpersonal behaviors) (Cleckley, 1976, p. 339). Along with an *absence of delusions and other signs of irrational thinking* as well as *suicide rarely carried out*, these features in combination would ordinarily reflect positive adjustment and psychological health. An *absence of nervousness or psychoneurotic manifestations* also purportedly characterized these individuals. Although seemingly an adaptive characteristic, the degree to which anxiety is lacking is extreme in that “even under concrete circumstances that would for the ordinary person cause embarrassment, confusion, acute insecurity, or visible agitation, his [sic] relative serenity is likely to be noteworthy” (Cleckley, 1976, p. 340).

In conjunction with these ostensibly adaptive traits, Cleckley observed prominent affective deficits associated with psychopathy. These included a *lack of remorse or shame, pathologic egocentricity and incapacity for love, an impersonal, trivial, and poorly integrated sex life*, as well as the tendency to remain *unresponsiveness in general interpersonal relations* (i.e., reflecting an apparent inability to experience gratitude or consideration of others except superficially to achieve instrumental pursuits). Perhaps most commonly associated with psychopathy across subsequent conceptualizations by

other theorists, Cleckley described a *lack of remorse or shame* and a *general poverty in major affective reactions* to be constant across psychopathic individuals.

Behavioral features of this disorder as espoused by Cleckley included *unreliability, untruthfulness and insincerity, failure to follow any life plan, and fantastic and uninviting behavior with drink and sometimes without*, although it was noted that substance use was not considered a causal factor of socially deviant behavior but rather a mechanism through which any inhibitions present were loosened. Importantly, Cleckley construed *inadequately motivated antisocial behavior* as happenstance more often than not and as distinct from typical criminal behavior through the general “absence of any apparent goal,” elaborating that “objective stimuli (value of the object, specific conscious need) are, as in compulsive (or impulsive) stealing, inadequate to account for the psychopath’s acts” (p. 343-344).

Finally, Cleckley described cognitive components of psychopathy comprising *poor judgment and failure to learn by experience* as well as a *specific loss of insight*. Although the former requires little explanation, the latter was emphasized as being exceedingly rare except in cases of severe psychosis. In this regard, psychopathic individuals are distinguished from patients with schizophrenia through their inability to fully grasp their emotional deficits despite being able to converse fluidly regarding their experiences and behaviors pertaining to these deficits. Cleckley characterized this lack of insight as involving:

...not only a deficiency but apparently a total absence of self-appraisal as a real and moving experience. Here is the spectacle of a person who uses all the words

that would be used by someone who understands, and who could define all the words but who still is blind to the meaning (Cleckley, 1976, p. 351).

In sum, Cleckley depicted a portrait of psychopathy that primarily entailed superficial psychological and social adjustment in conjunction with grave affective deficits lurking beneath the surface. This inability to experience genuine emotions (aside from frustration or irritability), including guilt and remorse, purportedly would lend itself to phenotypic expressions of socially deviant behavior. However, such antisocial behaviors were perceived to be consequences of the affective deficits rather than core features of the disorder (Skeem et al., 2011).

### **Seminal Historical Models of Psychopathy: McCord and McCord**

Unlike Cleckley, sociologists William and Joan McCord also sought to conceptualize psychopathy through their work with criminal offenders (Skeem et al., 2011). Similar to Cleckley, they emphasized that psychopathy encompassed a constellation of personality features (e.g., lack of remorse, absence of anxiety, shallow affect) that could be distinguished from purely criminal behavior. However, their conceptualization differed from Cleckley's by construing behavioral features as largely essential to the construct, particularly impulsivity and aggression, similar to the present day PCL-R psychopathy model. The McCords (1964) differentiated psychopathic individuals from psychologically healthy others via their sensation-seeking tendencies and their willingness to forego safety and security in the pursuit of thrill and excitement. The aggression associated with psychopathy, they proposed, often resulted from perceived restrictions on freedom. Thus, the McCords' emphasis on aggressive or

violent behavior provided a more reactive, volatile perspective of the construct than did Cleckley.

### **Seminal Historical Models of Psychopathy: Karpman Subtype Theory**

Karpman (1941), through his work with psychiatric inpatients, observed problems he considered inherent to a diagnostic system that subsumed psychopathic patients under one label. He eschewed the tendency for clinicians to equate all deviant behavior as indicative of psychopathy. In particular, Karpman theorized that although the phenotypic expression of psychopathic traits may be similar across cases, it was likely that different etiologies were responsible for such outcomes. The primary, or *Idiopathic*, psychopathic individual was described as embodying characteristics similar to those defined by Cleckley (1976). In contrast, the secondary, or *Symptomatic*, psychopathic person was theorized to exhibit the same behavioral manifestations as the primary subtype (e.g., manipulative behavior, remorselessness) in conjunction with experiencing far greater anxiety and affective turmoil than the primary psychopath. Further, Karpman espoused the hypothesis that the etiology of primary psychopathy was primarily genetic, but secondary psychopathy was likely the result of negligent or abusive environmental influences.

Repeatedly, attempts to identify groups of people exhibiting characteristics theoretically indicative of psychopathy subtypes have been successful across disparate samples of U.S. prison and county jail male prisoners, Swedish male inmates, and undergraduates (e.g., Bagley, Abramowitz, & Kosson, 2009; Falkenbach, Poythress, & Creevy, 2008; Skeem, Johansson, Andershed, Kerr, & Loudon, 2007; Swogger &

Kosson, 2007; Vassileva, Kosson, Abramowitz, & Conrod, 2005). Although research has produced evidence that psychopathy is dimensional in nature rather than taxonic (e.g., Edens, Marcus, Lilienfeld, & Poythress, 2006; Marcus, John, & Edens, 2004), the terms *primary* and *secondary* will be used to describe putative psychopathy subtypes without implying that these constructs are discrete taxons.

In one such subtyping study (Skeem et al., 2007), cluster analytic techniques were used to identify groups among Swedish male inmates imprisoned for violent crimes who were rated as high in psychopathic traits via the PCL-R (Hare, 2003). After examining all potential clusters identified, a two cluster solution was determined to be the best statistical fit to the data. The primary psychopathic group did not significantly differ from the secondary psychopathic group in their severity of deviant behaviors. Overall, after controlling for PCL-R scores, those in the primary psychopathic cluster were characterized by less emotional and mental distress, social deficits, and passivity than were those in the secondary psychopathic cluster (Skeem et al., 2007). The secondary cluster also exhibited greater tendencies to passive-aggressively express anger. The psychopathic clusters also differed from the *nonpsychopathic* group in theoretically consistent ways. Most importantly, the nonpsychopathic group was characterized by lower socially deviant behavior ratings on the PCL-R, as well as lower impulsivity and greater likelihood of improvement from therapy than were the psychopathic clusters. Aside from those variables, the nonpsychopathic group exhibited greater anxiety and passivity than the primary cluster but less anxiety and greater overall psychological and social adjustment than the secondary cluster. These results supported

Karpman's theoretical conceptions of psychopathic subtype groups as distinct from each other and nonpsychopathic individuals.

### **Assessment of Psychopathy**

The Psychopathy Checklist (PCL), originally published by Hare in 1980, was developed as an attempt to objectively assess the construct of psychopathy (Hare, 2003). The PCL was revised (and first commercially marketed as an assessment tool) in 1991 to include more detailed scoring criteria as well as to omit two problematic items to form the current version of this measure, the Psychopathy Checklist-Revised (PCL-R). An updated professional manual was published in 2003 to encompass the wide body of research conducted using the PCL-R since the original 1991 publication.

Hare's model espouses a four facet structure of psychopathy emphasizing the centrality of what are termed affective (e.g., lack of empathy), interpersonal (e.g., grandiosity), lifestyle (e.g., irresponsibility), and antisocial (e.g., criminal versatility) features of this disorder. Factor analyses of the PCL-R have also resulted in the identification of a two factor model (Hare, Harpur, Hakstian, Forth, Hart, & Newman, 1990) comprised of Factor 1 (Interpersonal/Affective) and Factor 2 (Social Deviance) as well as a three-factor model (Cooke & Michie, 2001) composed of the Arrogant and Deceitful Interpersonal Style, Deficient Affective Experience, and Impulsive and Irresponsible Behavioral Style factors. However, the three-factor model has been criticized by Hare (2003) regarding the methodology used to derive the factors, and it has been researched less than the two-factor or four facet models (though Hare's four facet model includes all three facets of the Cooke model).



Administration of the PCL-R entails conducting a semi-structured interview as well as an investigation of archival data. The 20 items on this measure are scored by a trained administrator on a scale from 0-2 (maximum score = 40). The standardization sample for the PCL-R, which is essentially an aggregation of numerous convenience samples collected over the years, included 4,891 incarcerated men and 1,218 incarcerated women as well as 1,248 men in forensic psychiatric settings. Coefficient alpha derived from these three samples was .84, and the standard error of measurement was approximately 3 points from one rater or approximately 2 points if two raters' scores were averaged. Ratings based on archival data alone resulted in an alpha of .87. Interrater reliability for these samples (Hare, 2003) was computed using an intra-class correlation coefficient (ICC). The reported ICC value averaged from two raters was .93. Although the PCL-R was developed to assess psychopathy dimensionally, scores greater than or equal to 30 are commonly used to "diagnose" psychopathy. Total scores can be transformed into T-scores ( $M = 50$ ,  $SD = 10$ ) and percentile ranks.

References to the PCL-R in the literature have emphasized its leading role in psychopathy assessment, to the extent that it has been referred to as the gold standard (e.g., Vitacco, Neumann, & Jackson, 2005). The impact of this measure can also be seen from its application in forensic settings. Viljoen, McLachlan, and Vincent (2010) surveyed forensic clinicians, 122 of whom performed some form of risk assessment of adult offenders. Of those, the majority reported use of the PCL-R. A recent investigation of U.S. caselaw indicates an increase in the introduction of PCL-R evidence in legal cases over the past decade (DeMatteo, Edens, Galloway, Cox, Smith, Koller, & Bersoff,

2014). Sexually violent predator cases and parole hearings accounted for the majority of cases in which PCL-R evidence was introduced.

Despite the aforementioned praise and the reported acceptable psychometric data for this instrument, the PCL-R is not without its drawbacks. Logistical problems entailed with the PCL-R include that it requires access to detailed archival records which restricts its use to settings (e.g., prisons) where these extensive records are kept (Edens et al., 2008) as well as the labor intensiveness required to adequately score this measure (i.e., an administration of the PCL-R requires approximately 1.5 to two hours [Lilienfeld & Widows, 2005]).

Importantly, the PCL-R has recently been criticized for placing too much emphasis on the criminal behaviors associated with psychopathy and for being less able to comprehensively assess the putative personality characteristics of psychopathy (Edens et al., 2008; Skeem & Cooke, 2010a). Skeem and Cooke have expressed concern that the PCL-R was developed in forensic settings and thus, “by definition, psychopathic inmates have histories of criminal conduct” and “the PCL is heavily dependent on information about criminal behavior” (p. 435). Further, they cautioned against conflating the construct of psychopathy with the PCL-R, and they emphasized the limitations placed on the progress of psychopathy research when a single instrument itself is reified. Skeem and Cooke also advocated for the development of a superior measure of psychopathy that would allow for the assessment of dynamic factors that might reflect change in response to treatment (i.e., in contrast to the primarily historical factors tapped by the PCL-R).

Even prior to recently raised concerns regarding the PCL-R, Kosson, Steuerwald, Forth, and Kirkhart (1997) developed the Interpersonal Measure of Psychopathy (IM-P), an instrument scored from PCL-R interviews but based on ratings of an examinee's interpersonal and verbal behaviors (e.g., verbal dominance over the interviewer) that are considered to be indicative of the interpersonal traits associated with psychopathy. The IM-P was developed as a supplement to Hare's measure in an attempt to improve on the PCL-R's ability to tap interpersonal characteristics associated with psychopathy. Since then, researchers have also begun to investigate emergent models (e.g., Cooke, Hart, Logan, & Michie, 2004; Patrick et al. 2009) that were developed to more thoroughly assess personality characteristics historically considered inherent to the psychopathy construct (e.g., Cleckley, 1976; Karpman, 1941) rather than placing an emphasis on criminal behaviors.

In addition to concerns about the construct validity of the PCL-R, some studies have shown problems associated with the reliable scoring of this instrument (e.g., Boccaccini, Turner, & Murrie, 2008; Miller, Rufino, Boccaccini, Jackson, & Murrie, 2011). Boccaccini and colleagues reported that within a sample of sexually violent predators who were assessed by opposing experts for civil commitment hearings via the PCL-R, the intraclass correlation coefficient was much lower (intraclass correlation  $A_{1,1} = .47$ ) than values reported in the PCL-R manual. Results from this study also suggested that approximately 30% of the variance in PCL-R scores was accounted for by individual differences in examiner scoring tendencies (i.e., some were more likely to consistently give higher or lower scores). In a separate study, Murrie, Boccaccini,

Turner, Meeks, Woods, and Tussey (2009) reported that approximately 18-25% of the variance in PCL-R scores could be attributed to evaluating experts' adversarial allegiance (i.e., associated with being retained by opposing parties).

Even when adversarial or legal proceedings are not associated with PCL-R evaluations, Miller and colleagues (2011) reported that raters' own personality characteristics influenced the scores they assigned. In a sample of graduate students and faculty who had recently completed a PCL-R training workshop, rater personality traits predicted differences in PCL-R ratings, particularly for the interpersonal and affective facets which involve more subjective scoring than do the lifestyle and antisocial facets. In particular, participants who were higher in Agreeableness traits (assessed by the NEO Personality Inventory-Revised; Costa & McCrae, 1992 as cited in Murrie et al., 2011) assigned lower scores on the PCL-R interpersonal facet. Additionally, raters who were higher in Conscientiousness traits assigned higher scores on the interpersonal facet and lower scores on the affective and antisocial facets. The results from these studies support researchers' calls for further investigation of alternate models and means of assessing psychopathy in order to redress the limitations of the PCL-R.

An alternate psychopathy assessment instrument, The Psychopathic Personality Inventory (Lilienfeld & Andrews, 1996), is a measure that was developed specifically to assess the personality characteristics of this disorder. This self-report instrument was designed to be implemented in large research studies, which necessitated that it not require the time and intensive training for an administration like that of the PCL-R. (Hare and colleagues also developed a self-report measure of psychopathy that

approximates the four facet model, the Self-Report Psychopathy Scale-III [SRP-III; Paulhus, Neumann, & Hare, in press].) The PPI was originally developed with undergraduate students and contained no questions directly referring to antisocial behavior so that it would have “the capacity to identify individuals who possess[ed] the core personality features of psychopathy, but who have not exhibited the repeated legal or social transgressions typical of individuals with ASPD” (Lilienfeld & Andrews, 1996, p. 519).

The PPI-R is a 154 item self-report measure that has a 4-point Likert response set (Lilienfeld & Widows, 2005). The original PPI contained 187 items, but only 154 items were retained for the PPI-R (Lilienfeld & Widows, 2005). The resulting PPI-R scales were: Machiavellian Egocentricity, Rebellious Nonconformity, Blame Externalization, Carefree Nonplanfulness, Social Influence, Fearlessness, Stress Immunity, and Coldheartedness. Additionally, 154 male prisoners and 329 adults from outside the university setting (whose racial makeup and education levels were proportional to findings from the 2002 U.S. census report) were assessed in the development of the PPI-R.

Seven of the eight PPI-R subscales have been found to load onto one of two factors: the Fearless Dominance (FD) or PPI-I factor (Social Influence, Fearlessness, and Stress Immunity) and the Self-Centered Impulsivity (SCI) or PPI-II factor (Blame Externalization, Rebellious Nonconformity, Carefree Nonplanfulness, Machiavellian Egocentricity; Lilienfeld & Widows, 2005; Benning, Patrick, Hicks, Blonigen, & Krueger, 2003). Coldheartedness failed to load onto either factor. Interestingly, although

the two factors of the PCL-R have been shown to be correlated approximately .50 with each other, FD and SCI have been found to be orthogonal (Lilienfeld & Widows, 2005; although, see Marcus, Fulton, & Edens, 2012).

### **Psychopathy and Associations with Criterion Variables**

A large body of research has examined the nomological net of the psychopathy construct through its relation to theoretically relevant external correlates. Convergent validity data provided in the PCL-R manual (Hare, 2003) regarding this instrument's associations with self-report measures included positive correlations between the total score and the Personality Assessment Inventory (PAI; Morey, 1991) Antisocial Features, Drug Problems, and Aggression scales. Notably, the associations between Factor 1 scores and indicators of externalizing behavior (e.g., aggression) in these variables are negligible in contrast to the associations between Factor 2 and the variables of interest.

Researchers have also investigated associations between psychopathy and indicators of externalizing and internalizing tendencies. Patrick, Hicks, Krueger, and Lang (2005) conducted structural equation modeling analyses among approximately 200 male inmates and found that externalizing behaviors (e.g., gambling, substance use, antisocial behaviors) were preferentially related to PCL Factor 2 items and negligibly related to PCL Factor 1 items. Additionally, Verona, Patrick, and Joiner (2001) found a similar association between PCL Factor 2 scores and past suicide attempts among a sample of approximately 300 male inmates. In contrast, PCL Factor 1 scores were unrelated to reported history of suicide attempts.

Hicks and Patrick (2006) examined the relationship between psychopathy and negative emotionality (e.g., anxiety and hostility). They posited that Cleckleyan conceptualizations would predict a negative association between affective distress and psychopathy, whereas Karpman's theory would predict a positive association between the secondary subtype and emotional distress. Results from this sample of male inmates indicated that, consistent with the authors' hypothesis, PCL Factor 1 scores were inversely related to affective distress and fearfulness, whereas PCL Factor 2 was positively related to these criterion variables. The associations between the factor scores and measures tapping anger were somewhat more complicated in that PCL Factor 2 was positively associated with affective distress, and PCL Factor 1 became negligibly associated with this variable when the factor scores were entered simultaneously, suggesting a suppressor effect (Hicks & Patrick, 2006).

Similarly, studies have examined the association between psychopathy assessed via the PPI/PPI-R and relevant criterion measures. Edens and McDermott (2010) conducted such an investigation with a sample of forensic inpatients and found that PPI SCI was positively related to measures indicative of externalizing tendencies (e.g., self-report measures of anger, impulsivity, and hostility as well as drug-related diagnoses and violence risk) as well some variables tapping internalizing domains (e.g., depression and anxiety). In contrast, both PPI FD and Coldheartedness were largely negatively associated with or were unrelated to both externalizing and internalizing variables.

In samples of foster youth, juvenile offenders, and college undergraduates, Smith, Edens, and Vaughn (2011) found similar patterns of associations and

psychopathy assessed via an abbreviated version of the PPI, despite problems of internal consistency for the PPI instrument within the two adolescent samples. In this study, PPI FD formed positive correlations with extraversion and substance abuse and inverse relationships with measures of affective distress and hostility, whereas PPI SCI formed negative associations with extraversion and positively related to measures of affective distress, hostility, deviant peer associations, arrest history, and substance abuse. Coldheartedness was negatively associated with or unrelated to the variables in this study, aside from forming positive relationships with a measure of callous unemotional traits as well as deviant peer associations and arrest history.

Blonigen et al. (2010) utilized the PPI in a large scale, multi-state study of predominantly male offenders. Self-report indicators of an internalizing style (INT) and externalizing behaviors (EXT) were formed from select subscales of the PAI. Results indicated that PPI FD negatively correlated with INT, and as expected, PPI SCI positively correlated with this factor. The EXT factor was highly positively correlated with PPI SCI but was much less, yet still significantly, correlated with PPI FD.

These studies highlight the vast body of research findings regarding psychopathic traits and theoretically relevant criterion variables. They also reflect the psychopathy instrument factor scores' divergent pattern of correlations with criterion variables, suggesting that elements of psychopathy are not entirely homogenous (Patrick et al., 2009).



## **Psychopathy and Associations with Violence**

Because of the high prevalence and wide-ranging consequences of interpersonal violence and aggression, the literature has been inundated by various attempts to understand and predict criminal recidivism and intervene with perpetrators of violence. Psychopathy is one risk factor for violence that has been researched extensively and has also been incorporated into various risk assessment measures (Guy, Douglas, & Hendry, 2010). Guy and colleagues (2010) advocated for the continued utilization of psychopathy as a violence risk factor in applied settings due to the increased likelihood of violence as well as the conceptual information gleaned (e.g., potential violence triggers, procedures needed to inhibit this elevated tendency for violence) from determining that psychopathic traits are present. Despite the generally moderate relationship between Hare's model of psychopathy and violence (Leistico, Salekin, DeCoster, & Rogers, 2008; Yang, Wong, & Coid, 2010), however, many questions remain about the nature of this association. Although considerable research suggests the antisocial facet of Hare's model has predicted recidivism to a greater extent than scores on the interpersonal and affective facets (e.g., Kennealy, Skeem, Walters, & Camp, 2010; Walters, Knight, Grann, & Dahle, 2008), at least some recent studies have suggested that interpersonal features may predict aggressive behavior beyond the criminal history variables assessed by the PCL-R (e.g., McDermott, Quanbeck, Busse, Yastro, & Scott, 2008; Smith, Edens, & McDermott, 2013; Vitacco, Van Rybroek, Rogstad, Yahr, Tomony, & Saewert, 2009).

Edens et al. (2008) used 46 inmates' scores on the PPI and PCL-R to predict institutional misconduct. At the two-year follow up, PPI SCI scores predicted verbally and physically aggressive institutional behavior ( $r = .24$ ), and PPI FD scores predicted non-aggressive institutional misconduct ( $r = .36$ ). PPI total scores were significantly associated with overall institutional misconduct (verbally and physically aggressive misconduct and non-aggressive misconduct). Neither the PCL-R total nor PCL-R factor scores significantly predicted either type of institutional misconduct.

Although sometimes used as a 'stand alone' risk assessment instrument, the PCL-R often is incorporated into risk assessments as part of a more extensive actuarial risk scale, such as the Violence Risk Appraisal Guide (VRAG; Quinsey, Harris, Rice, & Cormier, 1998), or structured assessment of violence risk, such as the Historical-Clinical-Risk Management-20 (HCR-20; Webster, Douglas, Eaves, & Hart, 1997). The HCR-20 was developed for the specific purpose of ascertaining risk for violent behavior via items that assess static, historical variables (e.g., criminal history), dynamic, clinical factors (e.g., current psychotic symptoms), and future-oriented risk management variables (e.g., treatment compliance likelihood) associated with future violence risk. Psychopathy as assessed by Hare's PCL-R total score comprises one of the HCR-20 historical variables. Studies have supported the concurrent and predictive validity of this measure in samples of inpatients as well as offenders (e.g., Kroner & Mills, 2001), and the HCR-20 has evinced incremental validity in predicting violent recidivism (Douglas & Webster, 1999) and institutional misconduct (McDermott, Edens, Quanbeck, Busse, & Scott, 2008) over other methods of risk assessment, including Hare's model.

## **Emergent Models of Psychopathy**

As noted previously, the dominant model of psychopathy (Hare, 2003) has been criticized by some as insufficiently emphasizing some putative aspects of psychopathy (e.g., fearlessness, dominance) historically construed as central to the disorder (e.g., Cleckley, 1976). Additionally, a recent and contentious debate among researchers has evolved concerning the theoretical and etiological significance of criminality and antisocial conduct in conceptual models of psychopathy (e.g., Hare & Neumann, 2010; Skeem & Cooke, 2010a; Skeem & Cooke, 2010b), with Hare arguing that antisocial conduct is an essential core component of this disorder and Skeem and Cooke asserting that the behavioral outcomes tapped by the PCL-R are more likely consequences of psychopathy that are causally downstream rather than core features of the disorder itself. Reflecting these ongoing controversies concerning how best to define psychopathy, several theorists have recently proposed alternative conceptualizations to Hare's model, as well as alternative methods to his means of assessing it (i.e., the PCL-R). The present study will seek to investigate two of these emerging alternatives to the Hare model of psychopathy.

**The Triarchic Model.** First, Patrick et al.'s (2009) Triarchic Model conceptualizes psychopathy as a combination of disinhibition (a tendency toward impulsive, externalizing behaviors) in conjunction with *Boldness* (characterized by anxiety immunity and social prowess) and/or *Meanness* (callous cruelty). Whereas the PCL-R model construes psychopathy primarily as a unitary construct comprised of moderately to highly inter-correlated facets (Patrick et al., 2009), the Triarchic Model

emphasizes the relative independence of the core components of the disorder (e.g., Boldness and Disinhibition appear to be at best only weakly correlated), as well as the conceptual and etiological significance of Boldness, which is not well captured by the PCL-R model.

Patrick and colleagues (2009) discussed widely researched psychopathy assessment instruments that appear to capture separate components of their Triarchic Model. They asserted that PCL-R Factor 2 and the PPI SCI factor largely reflect Disinhibition. Further, they reviewed research indicating that PPI FD captures the Boldness component, whereas PCL-R Factor 1 taps Meanness. Though both Meanness and Boldness capture interpersonal characteristics, the two can be differentiated from each other (Patrick et al., 2009) in order to more accurately describe distinct components of psychopathy. Supporting this theory, researchers have obtained results indicating that the previously described proxies for Boldness and Meanness predict differential patterns of associations with theoretically relevant external criterion variables (e.g., Patrick, Edens, Poythress, Lilienfeld & Benning, 2006; Smith, Edens, & Vaughn, 2011). In particular, Marcus, Fulton, and Edens (2012) conducted a meta-analysis of psychopathy assessed via the PPI/PPI-R. Analyses indicated that across studies, PPI FD was positively related to positive emotionality and sensation-seeking. FD was negatively related to measures of negative emotionality and failed to form an association with variables assessing constraint. PPI SCI was positively correlated with negative emotionality, sensation-seeking, and strongly correlated with PCL Factor 2. In contrast, SCI was unrelated to positive emotionality and strongly inversely correlated with

constraint. The Coldheartedness scale formed modest inverse relationships with both positive and negative emotionality as well as constraint, and it formed modest positive correlations with both PCL-R Factors. Marcus and colleagues (2012) attempted to reconcile contrasting associations of the PPI factors as well as their orthogonal relationship with each other in forensic samples by pointing to the relatively independent components of Patrick and colleagues' Triarchic Model.

More recently, investigations have been conducted to evaluate the construct validity of Patrick's Triarchic Psychopathy Measure (TriPM; Patrick, 2010) which operationalizes the Triarchic Model via a self-report inventory. Stanley, Wygant, and Sellbom (2013) administered the TriPM within a sample of male and female offenders ( $N = 141$ ), 37% of whom were pre-adjudication. The TriPM components evinced negligible to small correlations with the other scale components ( $r_s = -.03, .20$ , and  $.36$  between Boldness and Disinhibition, Boldness and Meanness, and Meanness and Disinhibition, respectively). Stanley and colleagues (2013) reported that the TriPM scales also exhibited correlations with theoretically relevant criterion variables. For example, Boldness positively correlated with measures of fearlessness, grandiosity, and extraversion, and Meanness inversely correlated with a measure of empathy and positively correlated with narcissism. Disinhibition positively correlated with affective instability and inversely correlated with a measure of self-discipline.

In a large undergraduate student sample, TriPM Boldness demonstrated a large positive correlation with PPI-FD ( $r = .82$ ), and it evinced a negligible but negative correlation with TriPM Disinhibition ( $r = -.10$ ; Drislane, Patrick, & Arsal, 2013).

Further, the TriPM scales evinced small to moderate correlations with self-reported psychopathy as assessed by the SRP-III four facet model developed to approximate the PCL-R model (rs ranging from .16 to .35 between Boldness and the SRP-III facets, .36 to .55 between Meanness and the SRP-III facets, and .26 to .53 between Disinhibition and the SRP-III facets). Importantly, in cluster analytic research within a large sample of Finnish military recruits ( $N = 4043$ ), a primary psychopathy cluster was identified that obtained higher scores on the TriPM Boldness, Meanness, and Disinhibition scales than did the low psychopathy cluster. In contrast, the secondary psychopathy cluster obtained higher scores on only the TriPM Meanness and Disinhibition scales compared with the low psychopathy subgroup (Drislane et al., 2014).

**The CAPP Model.** The second emerging model this research seeks to investigate has been proposed by Cooke et al. (2004), who developed the Comprehensive Assessment of Psychopathic Personality (CAPP) as a means to redress some of the perceived limitations of the PCL-R. These limitations include the PCL-R's primary reliance on static (e.g., historical) lifetime indicators of psychopathy as well as its lack of direct inclusion of certain personality traits argued by researchers (e.g., Patrick et al., 2009; Skeem & Cooke, 2010a) to be central to conceptualizing this disorder. The CAPP is a lexically-derived model that operationalizes psychopathy on six domains (Figure 1) related to individuals' interpersonal (dominance and attachment), affective, behavioral, and cognitive (self and global perception) characteristics (Cooke, Hart, Logan, & Michie, 2012). Despite some conceptual overlap (e.g., interpersonal manipulation), the CAPP differs from the PCL-R in its more extensive focus on

cognitive styles and other personality traits argued to be indicative of psychopathy (e.g., suspiciousness, rigidity, sense of entitlement). Unlike the static factors assessed by the PCL-R, the CAPP domains assess (ostensibly) dynamic components of psychopathic personality that are therefore amenable to reflecting change over time (e.g., improvement from treatment). Cooke and colleagues have developed an interview and file based instrument (the Comprehensive Assessment of Psychopathic Personality Disorder Institutional Rating System [Cooke, Hart, Logan, & Michie, 2004]) as well as a prototypicality ratings form (the Universal Protocol for Conducting Prototypicality Studies with the Comprehensive Assessment of Psychopathic Personality [Kreis, 2008]) as means of assessing psychopathic traits via the CAPP model. Consistent with the goal of dynamically assessing psychopathic traits, evaluators are encouraged to provide ratings for the CAPP-IRS based on a recent circumscribed time frame (e.g., the past six months) rather than throughout the person's lifetime.

Although both models just reviewed have strong theoretical bases as alternative means of encapsulating traits that historically have been considered important to conceptualizing psychopathy (e.g., Cleckley, 1976; Lykken, 1995), research on these two approaches is in its infancy (e.g., Heinzen, Fittkau, Kries, & Huchzermeier, 2011; Kreis & Cooke, 2011; Pedersen, Kunz, Rasmussen, & Elsass, 2010).

Kreis, Cooke, Michie, Hoff, and Logan (2012) conducted an investigation of the content validity of the CAPP. Their international sample consisted of 132 clinicians or researchers who rated the extent to which CAPP items were considered prototypical (i.e., rated as a 5 or greater) of the psychopathy construct on a 7 point Likert scale, with 7

indicating the characteristic was highly prototypical. Ratings were conducted for 33 CAPP items and 9 additional foil items. Of the 33 CAPP items, participants rated 25 as prototypical characteristics of psychopathy. Results indicated that three items were potentially problematic (*Unstable Self-concept*, *Lacks Concentration*, *Lacks Pleasure*) as they obtained the lowest mean prototypicality ratings. With regards to overall domain ratings, all except the cognitive domain were rated as prototypical. On average, participants rated the attachment and dominance domains as most prototypical of psychopathy. These results provided support for the position that clinicians and researchers consider interpersonal and personality characteristics (e.g., domineering, lacking in anxiety), that may not be adequately assessed by the PCL-R, inherent to the construct of psychopathy.

Kreis and Cooke (2011) examined differences in prototypicality ratings of psychopathy across gender. Utilizing the previously described international participant sample (Kreis et al., 2012), results indicated that items considered significantly more prototypical of psychopathic women were: *Lacks Emotional Stability*, *Unstable Self-concept*, and *Manipulative*. These results were somewhat consistent with a large scale literature review of the current status of research on psychopathy conducted by Skeem and colleagues (2011) who reported that, in general, psychopathy predicts physical aggression more so in men, whereas it is associated with suicidal and internalizing behaviors more so in women.

Pedersen and colleagues (2010) compared the CAPP and a screening version of the PCL-R in their abilities to prospectively predict violent recidivism. Their sample



included 96 male forensic psychiatric patients who were released or transferred to a separate psychiatric or prison facility and followed for an average of 5.7 years. During the follow-up period, 64 participants were convicted for new offenses, 37 of which received convictions for violent offenses. The screening version of the PCL-R and the CAPP total score predicted violent and nonviolent recidivism comparably ( $AUC$ 's for violent recidivism = .73 and .70, respectively;  $AUC$ 's for nonviolent recidivism = .69 and .71, respectively). Further, the CAPP Attachment, Behavioral, Dominance, and Emotionality domains significantly predicted violent recidivism as well ( $AUC$ 's = .68, .73, .68, .67, respectively). All CAPP domains significantly predicted nonviolent recidivism in this sample ( $AUC$ 's ranging from .66 for the self domain to .70 for the behavioral domain).

Sandvik and colleagues (2012) investigated the convergent validity of the CAPP and PCL-R among a sample of 80 Norwegian prison inmates. Their results reflected a large, positive correlation between the CAPP and PCL-R total scores ( $r = .83$ ). Positive correlations were also found between the PCL-R total score and all six CAPP domains ( $r$ 's = .70, .74, .70, .70, .69, and .66 for the Attachment, Behavioral, Cognitive, Dominance, Emotional, and Self domains, respectively). As one might predict, the CAPP Attachment domain was most strongly associated with the PCL-R Affective facet ( $r = .74$ ) and not significantly correlated with the PCL-R Antisocial facet ( $r = .20$ ). The CAPP Behavioral domain formed the strongest correlation with the PCL-R Lifestyle facet ( $r = .75$ ) and the weakest correlation with the Interpersonal facet ( $r = .23$ ). The Cognitive domain of the CAPP was most strongly correlated with the PCL-R Lifestyle

facet ( $r = .67$ ), and it formed the smallest correlation with the Antisocial facet ( $r = .49$ ). The Dominance domain of the CAPP formed a strong positive correlation with the PCL-R Interpersonal facet ( $r = .79$ ) and a modest positive correlation with the Lifestyle facet ( $r = .28$ ), but it was not significantly related to the Antisocial ( $r = .19$ ) facet. The CAPP Emotional domain was most strongly related to the PCL-R Affective facet ( $r = .70$ ), but it also significantly correlated with the remaining PCL-R facets ( $r_s = .41, .50$ , and  $.36$  for the Interpersonal, Lifestyle, and Antisocial facets, respectively). Finally, the CAPP Self domain was most strongly correlated with the PCL-R Affective facet ( $r = .71$ ), and it was not significantly related to the PCL-R Antisocial facet ( $r = .19$ ).

### **Present Study**

The present research study sought to investigate emergent models of psychopathy within a sample of male inmates. Questions concerning the core features of psychopathy are conceptually and theoretically important to investigate as they have very practical implications as well, given that instruments designed to assess this disorder (e.g., Hare's PCL-R) are widely used in the legal system to inform risk assessments in various high-stakes cases (e.g., sexual offender civil commitment hearings, capital murder trials; DeMatteo & Edens, 2006).

The present research was the first to investigate the concurrent validity of the Triarchic Psychopathy Measure (TriPM; Patrick, 2010) and the CAPP in relation to the PCL-R and several other theoretically relevant external correlates. More specifically, in addition to examining how these two models converge with Hare's four facet model, this research addressed how these models relate to measures of internalizing and

externalizing psychopathology, interpersonal style, and violence risk as concurrent criterion variables. For example, the TriPM Disinhibition component and the CAPP Behavioral domain (as well as the PCL-R antisocial facet) all would be expected to correlate highly with measures of externalizing psychopathology, given their conceptual overlap with this construct (see, e.g., Cooke et al., 2004; Edens & McDermott, 2010; Patrick et al., 2009). As well, given the greater emphasis placed on interpersonal characteristics by the CAPP and the TriPM, one would expect them to correlate more strongly with measures of interpersonal dominance than would the PCL-R facets (see, e.g., Benning, Patrick, Salekin, & Leistico, 2005; Patrick et al., 2006). Further, the Boldness component of the TriPM, characterized by anxiety immunity and the relative absence of psychological distress, would be expected to be more strongly (negatively) related to indicators of internalizing psychopathology than would be any of the facets of the PCL-R (see, e.g., Edens & McDermott, 2010). Finally, although each psychopathy model would be expected to be at least moderately related to risk assessment measures such as the HCR-20<sup>V3</sup>, one would expect that the more externalizing components of these models (e.g., disinhibition and behavioral domains) would be stronger correlates of violence risk potential than measures of boldness or affective deficits (see, e.g., Edens & McDermott, 2010; Patrick et al., 2006).

Further, the well-established moderate association between the global construct of psychopathy as assessed by the PCL-R and future violence (Guy, Douglas, & Hendry, 2010) appears to be mostly explained by the PCL-R's extensive assessment of prior criminality (Kennealy et al., 2010; Walters, Knight, Grann, & Dahle, 2008). Yet the

predictive utility of the emergent models, which place relatively less weight on static criminal history variables has not been investigated. Emergent models that provide more exhaustive assessments of the interpersonal features of psychopathy may well improve on the criterion-related validity of psychopathy as a risk factor for violence. As such, the proposed research will compare the utility of extant and emergent psychopathy models to predict violence risk estimates via the most recent iteration of the widely researched HCR-20, the Historical-Clinical-Risk Management-20 Version 3 (HCR-20<sup>V3</sup>; Douglas, Hart, Webster, & Belfrage, 2013).

### **Specific Hypotheses**

Based on the preceding literature review, the proposed research seeks to address the following questions:

- To what extent do emergent models of psychopathy converge and diverge with Hare's model, as operationalized by the PCL-R?
  - It is anticipated that the total score from the CAPP will correlate moderately highly with the PCL-R total score and that conceptually similar scales across the psychopathy measures (e.g., the Triarchic Model's Disinhibition component, the CAPP Behavioral domain, and PCL-R Lifestyle and Antisocial facets; the Triarchic Model's Boldness component, the CAPP Dominance domain, and the PCL-R Interpersonal facet; the Triarchic Model's Meanness component, and the CAPP Attachment and Emotional domains, and the PCL-R Affective facet) will also demonstrate positive correlations with each other.

- Because the Hare model of psychopathy places less emphasis on features such as social dominance, stress immunity, and fearlessness, it is expected that the TriPM and CAPP scales tapping these constructs will demonstrate modest associations with PCL-R scores.
- Do emergent models of psychopathy that place greater emphasis on the assessment of personality characteristics account for incremental variance beyond Hare's approach in predicting theoretically relevant criterion measures (e.g., interpersonal characteristics, internalizing symptomatology)?
  - Given that the TriPM and CAPP were developed specifically to tap core features of psychopathy thought to be poorly represented by the PCL-R, it is expected that these scales will correlate with criterion measures (described below) that assess these constructs more strongly than will the PCL-R and its four facets.
- Do emergent models of psychopathy predict perceived violence risk comparably to Hare's model?
  - Because both the Triarchic and CAPP models place relatively less weight on criminal history variables than the PCL-R, it is conceivable that they may be less effective as risk assessment measures. However, each stresses interpersonal features of psychopathy to a greater extent than does the PCL-R, which some research (e.g., McDermott et al., 2008) suggests may play an important role in violence risk. As such, no specific directional hypotheses are proposed here, as these predictive validity comparisons across models are largely exploratory for ratings of violence risk as operationalized by the HCR-20<sup>V3</sup>.

## METHOD\*

### Participants

The present study author sought to recruit fifty inmates from a county jail in Texas to have sufficient power (.78) to detect the smallest significant associations (as estimated from previous research) between the dominant and emergent psychopathy measures and in these instruments' relationships with theoretically relevant criterion measures. It was also deemed beneficial to conduct this research within an inmate sample due to the heightened rates of psychopathic traits found in correctional populations (Hare, 2003) and the increasing role of psychopathy in legal decision-making (DeMatteo et al., 2013).

A total of 84 inmates incarcerated at a 600-bed county jail were recruited to participate. Participants were on average 32.02 years of age ( $SD = 11.07$ ), and none were less than 18 years old. The sample was comprised of 34.50% European American, 34.50% Hispanic, and 27.40% African American inmates as well as an additional 3.60% who self-identified as being of another ethnicity. Participants' index offenses represented a broad range of crimes ranging from failure to pay child support to capital murder, and 23.80% of the sample had at least one violent index offense charge. Compensation was not offered for participation because of restrictions set forth by the data collection facility.

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## Measures

An approximately two hour interview was conducted with each inmate from which the HCR-20<sup>V3</sup>, PCL-R, and CAPP were scored, in conjunction with a review of facility classification and health information file data. Scoring of these measures was completed prior to and separately from viewing scored data from any criterion variables.

**Psychopathy Checklist-Revised.** The PCL-R (Hare, 2003), as discussed previously, is a 20-item rating scale of psychopathic traits assessed by information obtained via interview and file review. Coefficient alpha derived from the standardization samples was .84, and the intra-class correlation coefficient value reported for the PCL-R total score ratings within the male inmate standardization sample was .86. Extensive research has been conducted examining the construct validity of this instrument. Psychopathy as conceptualized by the four facet model of the PCL-R captures affective, interpersonal, lifestyle, and antisocial features of this personality disorder. The PCL-R items are rated individually (from 0-2), and total scores greater than or equal to 30 have commonly been used as a diagnostic cutoff score (Hare, 2003). Based on prior research (e.g., Hare, 2003), it was expected that all facets and factors within the instrument would positively correlate.

**Comprehensive Assessment of Psychopathic Personality Disorder-Institutional Rating System.** The CAPP-IRS (Cooke, Hart, Logan, & Michie, 2004) contains 33 total items pertaining to 6 relevant domains associated with psychopathic traits (Attachment, Behavioral, Cognitive, Dominance, Emotional, and Self) that are scored from 0-6 on a Likert scale. This instrument can be scored based on a lifetime

history, but the developers encourage users to conduct ratings based on distinct time periods (e.g., past six months or past year) to allow for the follow-up, dynamic assessment of the psychopathy construct over time (e.g., in response to treatment). Ratings for the present study were based on assessment of traits during the past six months.

Preliminary research has supported the content (Kreis & Cooke, 2011) and concurrent validity (Pedersen, Kunz, Rasmussen, & Elsass, 2010) of the CAPP. Validation research for this measure is currently ongoing, but promising data regarding interrater reliability (ICC's from .44 to .79 for the 6 domains; Pedersen et al., 2010) and concurrent validity with PCL-R scores (Sandvik et al., 2012) have been reported thus far.

**Triarchic Psychopathy Measure.** The TriPM (Patrick, 2010) is a 58-item measure that assesses the triarchic components of *Boldness* (19 items), *Meanness* (19 items), and *Disinhibition* (20 items). Initial research supports the construct validity of this instrument within offender and undergraduate student samples (e.g., Drislane et al., 2013; Stanley et al., 2013). Additionally, the Boldness component has evidenced high correlations with relevant subscales of the Psychopathic Personality Inventory (PPI; Lilienfeld & Andrews, 1996), a self-report measure of psychopathic personality traits. Internal consistency for the TriPM scales in the present sample assessed via Cronbach's alpha was .77, .89, and .86 for Boldness, Meanness, and Disinhibition, respectively.

**Antisocial Personality Disorder.** Researchers made diagnostic determinations regarding whether participants met criteria for a DSM-IV-TR diagnosis of Antisocial



Personality Disorder. Researchers assessed for evidence of Conduct Disorder (Criterion C) by asking participants directly if, prior to age 15, they engaged in each of the conduct disorder DSM-IV-TR symptom criteria. The Conduct disorder criterion was considered met if participants endorsed three or more diagnostic indicators during the interview or if the researcher found evidence of these items from other aspects of the interview or file review.

**Historical, Clinical, Risk Management (Version 3).** HCR-20<sup>V3</sup> scores are based on information from both an interview and collateral data. Because there is no standard HCR-20<sup>V3</sup> interview, additional questions were appended to the PCL-R semi-structured interview guide in order to assess all 20 items of the HCR-20<sup>V3</sup>. Although summing the scores from each item to obtain a total score is not recommended for clinical settings, because the assessments for the current study were conducted for research purposes, ratings were quantified on a 3-point scale of 0 (*Not Present*), 1 (*Possibly or Partially Present*), or 2 (*Present*). For those items with sub-items, the overall item score was obtained by utilizing the highest rating from the associated sub-items (e.g., if the associated sub-item scores were 0, 0, 1, the overall item score would be 1). Additionally, given the uncertainty regarding whether each participant would remain incarcerated, researchers in the current study provided two sets of ratings (one assuming continued incarceration, R-Institution, and another assuming that participants would be living in a community setting, R-Community) for Risk Management items. Due to the exploratory nature of this research, no directional hypotheses were made regarding the emergent psychopathy models' correlations with this instrument.

**Personality Assessment Inventory.** The Personality Assessment Inventory (PAI; Morey, 1991) is a self-report measure used to assess clinical, interpersonal, treatment motivation, and validity domains. The PAI contains 344 items that are endorsed on a 4-point Likert scale ranging from False to Very True. The full scales contain no item overlap. Adequate internal consistency and convergent and discriminant validity have been reported for this measure (Morey, 1991, 2007) which has been used extensively in research with offender populations (Ruiz & Edens, 2008). Externalizing (EXT) and internalizing (INT) components of this measure as constructed from select scales (Blonigen et al., 2010) will be used as criterion variables. The EXT variable was created from the PAI Antisocial Features, Aggression, Alcohol Problems, and Drug Problems scales, whereas the INT variable was calculated by summing the Depression, Anxiety, and Anxiety-Related Disorders scales. These estimates of internalizing and externalizing were used because they were developed and exhibited good psychometric properties (e.g., CFA model fit indices) within a large sample of offenders. The Dominance and Warmth scales were used as interpersonal criterion variables. These PAI criterion variables are useful measures of tendencies to experience anxiety and distress affectively (INT), to express negative affect behaviorally (e.g., through substance use or aggression) (EXT), and to be experienced by others as interpersonally submissive or dominant.

PAI data from six participants were excluded due to excessive missing data, and an additional 11 participants' responses were omitted due to likely random or careless responding (i.e., elevations greater than two standard deviations above the normative

sample mean on either the Infrequency or Inconsistency scales; Morey, 2007).

Therefore, analyses for all PAI variables are based on data from 66 participants.

It was expected that TriPM Boldness, the CAPP Attachment and Emotional domains, and the PCL-R Affective facets would correlate negatively with PAI INT, whereas, TriPM Disinhibition, the CAPP Behavioral domain, and the PCL-R Antisocial facet would positively correlate with PAI EXT. Further, positive correlations were predicted for TriPM Boldness and the CAPP Dominance domain with the PAI Dominance scale, and TriPM Meanness and the CAPP Dominance domain were expected to correlate negatively with the PAI Warmth scale.

**Interpersonal Measure of Psychopathy.** The IM-P (Kosson, Steuerwald, Forth, & Kirkhart, 1997) is an instrument scored from PCL-R interviews based on ratings of an individual's interpersonal and verbal behaviors (e.g., verbal dominance over the interviewer) that are considered to be indicative of the interpersonal traits associated with psychopathy. The IM-P was developed as a supplement to Hare's measure in an attempt to improve on the PCL-R's ability to tap interpersonal characteristics associated with psychopathy (Kosson et al., 1997). The full scale score as well as a reported three-factor model of this instrument consisting of Dominance, Grandiosity, and Boundary Violations (Vitacco & Kosson, 2010) served as external criterion variables. Research has supported the concurrent and predictive validity of this measure (Kosson et al.) as a meaningful assessment of interpersonal characteristics. Internal consistency (Cronbach's alpha) values in the present sample were .88, .76, .75, and .79 for the IM-P Total score and Dominance, Grandiosity and Boundary Violations scales, respectively.

The CAPP Dominance and TriPM Boldness scales were expected to positively correlate with the IM-P Total score and the Dominance subscale in particular, given that this subscale purportedly taps behaviors indicative of interpersonal dominance (e.g., tendencies to interrupt and refusal to tolerate interruption from the interviewer).

**The Self-Report of Psychopathy Scale-III.** The SRP-III (Paulhus, Neumann, & Hare, in press) is a self-report psychopathy inventory designed to approximate the PCL-R four facet model. This instrument was administered in the present study to investigate method variance issues in psychopathy assessment for exploratory purposes. Internal consistency assessed via Cronbach's alpha was .80, .68, .70, and .70 for the Interpersonal, Affective, Lifestyle, and Antisocial facets, respectively.

### **Procedure**

Four graduate-level research assistants conducted the interviews, file review, and scoring of all interview-based measures. The author attended a two-day training workshop conducted by two of the HCR-20<sup>V3</sup> developers. Additionally, the author received training on the administration and scoring of the PCL-R from multiple experts who use the PCL-R in applied settings. The author then trained the other three graduate student research assistants on the scoring and administration of all interview measures. Prior to data collection, the interviewers rated three practice cases, discussed any discrepancies in scoring, and reached consensus ratings. Next, the first three participants were independently rated by at least two raters who were present during the interviews, and consensus scores were obtained to ensure reliable scoring across researchers. Fifteen additional cases were randomly selected and independently rated by two researchers to

assess reliability. Because interviews were conducted with a single researcher after the initial training period, the 15 cases were rated for reliability on the basis of a review of the original researcher's written notes from the interview and file review.

Inmates who were recently incarcerated at the detention center were randomly selected from a pool of volunteers and invited to participate. In the majority of cases, participants were recruited from the orientation housing unit soon after arriving at the facility, and the modal length of incarceration prior to enrolling in the study was two days.

A three-part consent process (as recommended by Stiles, Epstein, Poythress, & Edens, 2011) was utilized to obtain informed consent from participants. After reviewing the main consent document, researchers administered a multiple-choice comprehension quiz to ensure participants understood the information described (e.g., purpose of the study, lack of compensation for participation). After successfully completing the comprehension quiz, a voluntariness assessment was administered to confirm that the inmates were freely and willingly consenting to participate and did not feel coerced into participation. Participants were excluded from the study if they could not speak English fluently, were unable to read and comprehend at a 4<sup>th</sup> grade reading level, failed the multiple-choice comprehension quiz (by incorrectly answering two or more of the five questions), or indicated any coercion in choosing to participate in the study. Only four inmates failed the comprehension quiz, and no one indicated that they had experienced any coercion to participate in the study.

After conducting the interview and administering additional self-report questionnaires not relevant to the current study, researchers reviewed participants' detention center records. These records included demographic information, current charges, previous criminal history, and discipline reports for institutional misconduct obtained at the current facility. Information regarding discipline reports amassed at other facilities was often not included in the records. The researchers also reviewed inmate medical records, which included information regarding medication, physical and mental health diagnoses and treatment, and risk prevention measures taken at the current facility (e.g., placement in isolation, restriction of sharp objects). However, the level of detailed information contained in each file varied considerably.

Completion of the protocol took approximately 3-4 hours per participant. Approval to complete this study's protocol was granted by both the university institutional review board and administrators at the detention facility.

### **Missing Data**

When items were omitted or otherwise missing, prorated scale scores for all instruments were calculated if at least 90% of the data were present, with the exception of the PAI variables. Scores for scales on this instrument were calculated via proration if no more than 20% of the items were missing, based on instructions in the instrument's professional manual (Morey, 2007).

## RESULTS\*

### **Interrater Reliability**

To evaluate interrater reliability in the current study, 15 (18%) cases were randomly selected to be independently scored by a second rater (i.e., each of the four graduate student researchers provided ratings for at least five of the 15 cases). Interrater reliability was assessed using a two-way random effects model with an absolute agreement, single rater intraclass correlation coefficient for the PCL-R, CAPP, and HCR-20<sup>V3</sup> ratings. Due to the nature of the instrument and the data collection procedures, interrater reliability was not collected for the IM-P.

High interrater reliability (all  $ICC_{A,1}$ ) was observed for total PCL-R scores ( $ICC = .87$ ). Similarly, high reliability was obtained for the Lifestyle and Antisocial facets ( $ICCs = .89$  and  $.92$ , respectively), and acceptable reliability (for research purposes) was observed for the Interpersonal and Affective facets ( $ICCs = .73$  and  $= .69$ , respectively).

Overall, the interrater reliability for the CAPP model was less than optimal (CAPP Total score  $ICC = .52$ ; Attachment domain  $ICC = .45$ ; Behavioral domain  $ICC = .57$ ; Dominance domain  $ICC = .48$ ; Emotional domain  $ICC = .55$ ; Self domain  $ICC = .36$ ). However, reliability for the Cognitive domain was more promising ( $ICC = .72$ ).

High overall diagnostic agreement was obtained for coding the presence or absence of at least three ASPD indicators (i.e., whether participants met the threshold

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number of criteria for a diagnosis of ASPD) with 93% agreement across raters (kappa = .82). (The childhood Conduct Disorder criterion was not included in the reliability analyses because whether or not participants met the CD criterion was decided solely by the original rater based on participants' self-report categorical [yes/no] endorsement of CD criteria during the interview and any available file information.)

ICC values for each HCR-20<sup>V3</sup> subscale ranged from .92 (Historical) to .67 (Clinical). For the Risk Management subscale, ICCs were assessed for both incarcerated (.68) and community (.88) settings.

### **Descriptive Statistics**

Table 1 contains descriptive information for all measures utilized in this research. An investigation of variable distribution reflected that a single variable was markedly skewed (TriPM Meanness). However, transformations of this variable to reduce the moderate positive skew resulted in decreased or negligible correlations with theoretically relevant criterion variables. Therefore, the original value for this variable was utilized in all analyses.



Table 1

## Descriptive Statistics for Psychopathy Models and Criterion Variables

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	<i>N</i>	<i>M (SD)</i>	Minimum	Maximum	Skew
PCL-R Total	84	18.02 (7.71)	2.00	36.00	0.15
Facet 1	84	2.80 (2.19)	0.00	8.00	0.69
Facet 2	84	3.74 (2.16)	0.00	8.00	0.10
Facet 3	84	5.74 (2.33)	1.00	10.00	-0.15
Facet 4	84	4.68 (2.63)	0.00	10.00	-0.06
CAPP Total	84	73.09 (27.88)	8.00	157.00	0.35
Attachment	84	7.90 (4.48)	0.00	21.00	0.61
Behavioral	84	14.69 (5.48)	4.00	30.00	0.20
Cognitive	84	11.71 (4.24)	0.00	22.00	-0.14
Dominance	84	11.75(7.19)	0.00	29.00	0.44
Emotional	84	11.86 (4.94)	1.00	24.00	0.03
Self	84	15.18 (7.17)	1.00	32.00	0.24
TriPM Boldness	83	50.89 (8.83)	27.00	72.00	-0.10
TriPM Meanness	83	31.21 (9.20)	19.00	74.00	1.63
TriPM Disinhibition	82	46.83 (11.60)	21.00	77.00	0.30
ASPD Total Symptoms	84	4.19 (1.87)	0.00	7.00	-0.51

Table 1 Continued

	<i>N</i>	<i>M (SD)</i>	Minimum	Maximum	Skew
HCR-20 <sup>V3</sup> Historical	84	13.92 (4.18)	3.00	20.00	-0.64
HCR-20 <sup>V3</sup> Clinical	84	5.43 (2.23)	0.00	10.00	-0.29
HCR-20 <sup>V3</sup> RM (In)	84	5.64 (1.89)	1.00	10.00	0.04
HCR-20 <sup>V3</sup> RM (Out)	84	6.98 (2.32)	0.00	10.00	-0.73
IM-P	76	17.17 (11.40)	0.00	48.00	0.65
SRP-III Total	82	2.62 (0.45)	1.83	4.14	0.83
Facet 1	82	2.41 (0.62)	1.25	4.50	0.76
Facet 2	82	2.53 (0.51)	1.44	4.19	0.64
Facet 3	82	3.07 (0.59)	2.00	4.50	0.52
Facet 4	82	2.49 (0.62)	1.13	4.19	0.21
PAI DOM	66	56.61 (10.46)	26.00	78.00	-0.55
PAI WRM	66	51.56 (10.36)	21.00	70.00	-0.76
PAI INT	66	183.77(39.55)	115.00	286.00	0.37
PAI EXT	66	249.80(43.22)	172.00	379.00	0.65
<b>Supplementary Analyses</b>					
PAI ARD_P	66	51.29 (9.69)	34.00	81.00	0.81
PAI MAN_G	66	62.10 (11.46)	35.00	83.00	-0.13

The PCL-R Total and facet scores obtained in this sample were compared with prior research utilizing this instrument (e.g., Hare, 2003). Participants in the present pre-trial sample obtained Total and facet scores at the 31.6<sup>th</sup>, 48.8<sup>th</sup> (Interpersonal), 41.3<sup>rd</sup> (Affective), 54.4<sup>th</sup> (Lifestyle), and 42.2<sup>nd</sup> (Antisocial) percentiles, respectively, in comparison with normative data for this instrument based on 5408 North American offenders. (PCL-R Total scores of 22 and 23 represent the 48.1<sup>st</sup> and 52.4<sup>th</sup> percentiles in the normative sample, respectively.)

Normative data for the CAPP and TriPM are not currently available. However, comparisons were made between descriptive data available for two published studies utilizing the CAPP and the present sample. Comparisons of CAPP Total and domain scores with a sample of 96 Danish male forensic psychiatric patients (Pedersen et al., 2010) evinced negligible or small (Cohen's  $d$ s = -0.02, 0.04, -0.19, 0.21, -0.25 for the Dominance domain, Cognitive domain, CAPP Total score, Self domain, and Behavioral domain, respectively) to medium effect sizes (Cohen's  $d$ s = -0.52 and -0.67 for the Emotional and Attachment domains, respectively) in which most of the present study scores were lower than those obtained from the psychiatric patients. In comparison to a Norwegian sample of 80 male inmates (Sandvik et al., 2012), negligible or small effect size differences were obtained (Cohen's  $d$ s = -0.02, -0.02, 0.03, 0.04, 0.09, and 0.15 for the Attachment domain, Emotional domain, Cognitive domain, Dominance domain, Behavioral domain, and CAPP Total scores, respectively) aside from the moderately larger Self domain scores obtained in the present sample (Cohen's  $d$  = 0.47).

Descriptive results for the TriPM scales in the present study were compared with those from a sample of 141 U.S. male inmates, 37% of whom were pre-adjudication (Stanley et al., 2013). TriPM Boldness did not significantly differ across the two samples (Cohen's  $d = 0.02$ ). However, TriPM Meanness and Disinhibition scores in the present sample were substantially lower than those in the comparison sample, demonstrating medium and large effect sizes (Cohen's  $ds = -0.60$  and  $-1.01$ ), respectively.

### **Psychopathy Models: Intra-measure Comparisons**

As would be expected, PCL-R facets correlated with the total score in the .7 to .8 range (Table 2). All CAPP domains formed positive correlations with the Total score for this instrument (Table 3), demonstrating medium to large effect sizes according to interpretation guidelines recommended by Kramer et al. (2003). Additionally, the CAPP Attachment domain exhibited large positive correlations with all other CAPP domains. In fact, with the exception of the moderate correlation between the Cognitive and Self domains, all CAPP domains demonstrated large positive correlations with the other domains throughout this instrument. Somewhat unexpectedly, TriPM Boldness correlated negatively with TriPM Disinhibition, although this association was small (Table 4). Moderate positive correlations were found between TriPM Disinhibition and Meanness as well as between TriPM Boldness and Meanness as predicted.

Table 2

PCL-R Total and Facet Score Correlations

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	Total	Facet 1	Facet 2	Facet 3	Facet 4
Total	1.00	.72**	.79**	.79**	.72**
Facet 1		1.00	.65**	.48**	.19*
Facet 2			1.00	.49**	.35**
Facet 3				1.00	.54**
Facet 4					1.00

*Note.* \*\* = significant at  $p < .01$ ; \* = significant  $p < .05$  based on one tailed t-tests. Facet 1 = Interpersonal; Facet 2 = Affective; Facet 3 = Impulsive Lifestyle; Facet 4 = Antisocial Behavior.

Table 3

CAPP Total and Domain Score Correlations

---

	Total	Attach	Behav	Cog	Dom	Emot	Self
Total	1.00	.84**	.81**	.73**	.88**	.85**	.84**
Attach		1.00	.69**	.57**	.66**	.74**	.60**
Behav			1.00	.60**	.62**	.65**	.55**
Cog				1.00	.55**	.65**	.45**
Dom					1.00	.66**	.76**
Emot						1.00	.63**
Self							1.00

Note. \*\* = significant at  $p < .01$

Table 4

TriPM Scale Correlations

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	Boldness	Meanness	Disinhibition
Boldness	1.00	.30**	-.25*
Meanness		1.00	.40**
Disinhibition			1.00

*Note.* \*\* = significant at  $p < .01$ ; \* = significant  $p < .05$

### **Psychopathy Models: Inter-model Comparisons**

Tables 5 and 6 contain results for correlations between the scales operationalizing the psychopathy models. Given a priori directional hypotheses based on prior research, these analyses involved one tailed significance tests. A larger than expected positive correlation formed between the PCL-R and CAPP total scores. However, the median correlation between the six CAPP domains and four PCL-R facets was .49 ( $M$  correlation = .48), indicating that the instruments and particularly the subscales were not entirely redundant with each other.



Table 5

## Correlations between Psychopathy Models

	PCL-R Total	Facet 1	Facet 2	Facet 3	Facet 4
CAPP Total	.74**	.71**	.65**	.49**	.48**
Attachment	.74**	.57**	<b><u>.72**</u></b>	.51**	.49**
Behavioral	.68**	.49**	.46**	<b><u>.55**</u></b>	.59**
Cognitive	.43**	.32**	.28**	<b><u>.34**</u></b>	.39**
Dominance	.59**	<b><u>.79**</u></b>	.52**	.31**	.26**
Emotional	.60**	.44**	.57**	.37**	.52**
Self	.63**	<b><u>.73**</u></b>	.63**	.40**	.27**
TriPM Boldness	.05	<b><u>.32**</u></b>	.16	-.04	-.26**
TriPM Meanness	.36**	<b><u>.35**</u></b>	<b><u>.27**</u></b>	.25*	.21*
TriPM Disinhibition	.48**	.25*	.09	<b><u>.48**</u></b>	<b><u>.59**</u></b>

*Note.* \*\* = significant at  $p < .01$ ; \* = significant  $p < .05$  based on one tailed t-tests. Facet 1 = Interpersonal; Facet 2 = Affective; Facet 3 = Impulsive Lifestyle; Facet 4 = Antisocial Behavior. Boldface text indicates hypothesized relationships; Underlined text indicates results conformed to predictions

Table 6

Correlations between the CAPP and TriPM

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	TriPM Boldness	TriPM Meanness	TriPM Disinhibition
CAPP Total	.14	.48**	.35**
Attachment	.10	.44**	.28**
Behavioral	.02	.49**	.50**
Cognitive	-.15	.32**	.24*
Dominance	.28**	.37**	.22*
Emotional	-.02	.37**	.29**
Self	.27**	.39**	.21*

*Note.* \*\* = significant at  $p < .01$ ; \* = significant  $p < .05$

Results regarding preferential scale correlations for the CAPP and TriPM with the PCL-R largely conformed to those predicted. The CAPP Dominance and Self domains exhibited large positive correlations with the PCL-R Interpersonal facet. However, only CAPP Dominance preferentially predicted the PCL-R Interpersonal facet beyond the remaining three PCL-R facets (Williams  $T_2 = 4.64$ ,  $p < .001$ ). Similarly, the CAPP Attachment domain was robustly and preferentially positively correlated with the PCL-R Affective facet (Williams  $T_2 = 2.33$ ,  $p = .02$ ). As predicted, the CAPP Behavioral and Cognitive domains evinced modest positive correlations with the PCL-R Lifestyle facet, however, neither CAPP domain was preferentially related to the Lifestyle facet (Williams  $T_2$ s =  $-0.49$  and  $-0.51$ ,  $ps = .63$  and  $.61$ , respectively). In contrast to the a priori hypothesis that the CAPP Emotional domain would form only a small positive correlation with the PCL-R Affective facet, the Emotional domain exhibited moderate positive correlations with all PCL-R scores and was not preferentially related to the Affective facet (Williams  $T_2 = 0.51$ ,  $p = .61$ ).

As predicted, TriPM Meanness correlated positively with the PCL-R Interpersonal and Affective facets, however, this TriPM scale was not preferentially related to either facet beyond the Lifestyle and Antisocial facets (Williams  $T_2 = 0.94$  and  $0.19$ ,  $ps = .35$  and  $.85$ , respectively). Also as hypothesized, TriPM Disinhibition correlated moderately with the PCL-R Lifestyle and Antisocial facets. Although the correlations between TriPM Disinhibition and the PCL-R Lifestyle and Antisocial facets did not significantly differ (Williams  $T_2 = -1.28$ ,  $p = .20$ ), TriPM Disinhibition exhibited a preferential relationship with the Antisocial facet beyond the Interpersonal (Williams

$T_2 = 2.88, p = .01$ ) and Affective facets. As expected, TriPM Boldness was moderately positively correlated with the PCL-R Interpersonal facet, and it also evinced a small negative correlation with the PCL-R Antisocial facet. Analyses indicated that TriPM Boldness preferentially correlated with the PCL-R Interpersonal facet beyond the remaining three PCL-R facets (Williams  $T_2 = 4.58, p < .001$ ).

Results regarding the correlations between the CAPP and TriPM were consistent with hypotheses. The TriPM Boldness scale correlated moderately positively with the CAPP Dominance domain, TriPM Meanness evinced moderate positive correlations with the CAPP Attachment and Emotional domains, and TriPM Disinhibition was moderately positively correlated with the CAPP Behavioral domain. Additionally, TriPM Boldness correlated moderately positively with the CAPP Self domain, and TriPM Meanness and Disinhibition evinced small to large positive correlations with all CAPP domains.

### **Psychopathy Models: Criterion-related Validity**

Next, relationships were examined between the psychopathy models and theoretically relevant criterion variables. As can be seen in Table 7, results largely conformed with hypotheses. Predictions regarding the psychopathy scales and a measure of externalizing psychopathology tendencies were borne out, with the PCL-R Antisocial facet, CAPP Behavioral domain, and TriPM Disinhibition scale forming moderate positive correlations with PAI EXT.

In contrast, hypotheses regarding the psychopathy instruments and self-reported internalizing psychopathology were less consistent with the obtained results. TriPM

Boldness demonstrated a moderate inverse correlation with PAI INT, as expected.

However, the PCL-R Affective facet as well as the CAPP Emotional and Attachment domains exhibited modest positive correlations with PAI INT rather than the predicted inverse correlations with this measure.

Hypotheses regarding the psychopathy models and interpersonal style were supported overall. Both the CAPP Dominance domain and TriPM Boldness positively correlated with an interviewer rated measure of interpersonal behaviors associated with psychopathy (IM-P), evincing small and large effect sizes, respectively. Additionally, the CAPP Dominance domain exhibited the predicted positive correlation with the IM-P Dominance subscale, but TriPM Boldness failed to correlate with this subscale, instead demonstrating a moderate positive correlation with the IM-P Grandiosity subscale. The CAPP Dominance domain and TriPM Boldness moderately correlated with self-reported dominance (DOM). However, the predicted inverse relationship between CAPP Dominance and self-reported warmth (WRM) was not supported, with results instead reflecting an orthogonal relationship. TriPM Meanness evinced a negative correlation with self-reported warmth as predicted, although the effect size was only modest.

Table 7

## Correlations between Psychopathy Models and Criterion Variables

	IM-P	IM-P D	IM-P G	IM-P BV	PAI DOM	PAI WRM	PAI INT	PAI EXT
PCL-R Facet 4	.14	.15	.09	.10	-.09	-.29*	.44**	<u>.55**</u>
CAPP Behavioral	.41**	.59**	.35**	.33**	.09	-.22	.28*	<u>.53**</u>
TriPM Disinhibition	.18	.14	.05	.19	-.22	-.45**	.50**	<u>.64**</u>
PCL-R Affective	.42**	.32**	.47**	.25*	.09	-.16	<b>.23</b>	.20
CAPP Attachment	.46**	.32**	.47**	.27*	.15	-.17	<b>.25*</b>	.31*
CAPP Dominance	<u>.73**</u>	<u>.45**</u>	.61**	.60**	<u>.35**</u>	<b>.01</b>	.10	.23
CAPP Emotional	.46**	.32**	.40**	.38**	.13	-.26*	<b>.29*</b>	.26*
TriPM Boldness	<u>.23*</u>	<b>.17</b>	.43**	.22	<u>.47**</u>	.35**	<u>-.51**</u>	-.17
TriPM Meanness	.13	.08	.35**	.19	.22	<u>-.26*</u>	.03	.40**

Note. \*\* = significant at  $p < .01$ ; \* = significant  $p < .05$  based on one tailed t-tests. Facet 4 = Antisocial Behavior; Boldface text indicates hypothesized relationships; Underlined text indicates results conformed to predictions.

## **Incremental Predictive Validity**

Analyses were then conducted to determine the potential incremental validity of the emergent psychopathy models in predicting criterion variables beyond the PCL-R model. For these analyses, hierarchical regression analyses were performed with the PCL-R entered in the first block and the emergent psychopathy models entered in the second block. Only those hypotheses that were supported by bivariate correlation results were considered here.

At block 1, the overall regression model indicated that PCL-R Total scores accounted for a significant amount of variance in self-reported externalizing psychopathology ( $R^2 = .29$ ,  $F[1, 63] = 26.24$ ,  $p < .001$ ). However, after controlling for the PCL-R Total score, TriPM Disinhibition (partial  $R = .49$ ,  $p < .001$ ) continued to predict self-reported externalizing, whereas the CAPP Behavioral domain (partial  $R = .16$ ,  $p = .22$ ) did not ( $R^2 = .50$ ,  $\Delta R^2 = .21$ ,  $F[3, 61] = 20.68$ ,  $p < .001$ ). Similarly, after controlling for PCL-R Total scores, TriPM Boldness continued to inversely predict self-reported internalizing psychopathology (partial  $R = -.54$ ,  $p < .001$ ) ( $R^2 = .41$ ,  $\Delta R^2 = .25$ ,  $F[2, 63] = 21.48$ ,  $p < .001$ ).

Hierarchical analyses were then conducted for the interpersonal criterion variables. In block 1, PCL-R Total scores did not account for a significant amount of variance in self-reported interpersonal dominance (DOM),  $R^2 = .001$ ,  $F(1, 64) = 0.06$ ,  $p = .81$ . In block 2, TriPM Boldness (partial  $R = .41$ ,  $p = .001$ ) and CAPP Dominance (partial  $R = .32$ ,  $p = .01$ ) significantly predicted this criterion variable ( $R^2 = .30$ ,  $\Delta R^2 = .30$ ,  $F[3, 62] = 8.98$ ,  $p < .001$ ). Further, after controlling for PCL-R Total scores (block 2

partial  $R = .09$ ,  $p = .44$ ), CAPP Dominance (partial  $R = .63$ ,  $p < .001$ ) continued to predict an interview-based measure of interpersonal psychopathic traits (IM-P Total score), although TriPM Boldness did not (partial  $R = .03$ ,  $p = .78$ ) ( $R^2 = .56$ ,  $\Delta R^2 = .33$ ,  $F[3, 71] = 29.94$ ,  $p < .001$ ). The CAPP Dominance domain (partial  $R = .30$ ,  $p = .01$ ) also accounted for incremental variance beyond the PCL-R in the prediction of scores on the IM-P Dominance subscale ( $R^2 = .23$ ,  $\Delta R^2 = .08$ ,  $F[2, 81] = 11.77$ ,  $p < .001$ ). TriPM Meanness (partial  $R = -.22$ ,  $p = .08$ ) failed to inversely predict self-reported warmth (WRM) after controlling for PCL-R Total scores ( $R^2 = .10$ ,  $\Delta R^2 = .05$ ,  $F[2, 63] = 3.50$ ,  $p = .04$ ).

### **Exploratory Analyses**

Hypotheses regarding the psychopathy models' associations with a new measure of violence risk were largely exploratory (see Table 8). Overall, the CAPP model and TriPM model also evinced moderate positive correlations with the HCR-20<sup>V3</sup> scales, with the exception of TriPM Boldness, which evinced negative correlations with these scales.



Table 8

Correlations of Psychopathy Models with IM-P and HCR-20 <sup>V3</sup>


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	Historical	Clinical	RM-IN	RM-Out
PCL-R Total	.69**	.63**	.46**	.50**
Facet 1	.34**	.26*	.22*	.12
Facet 2	.43**	.41**	.32**	.24*
Facet 3	.60**	.59**	.42**	.55**
Facet 4	.74**	.71**	.50**	.60**
CAPP Total	.57**	.55**	.39**	.47**
Attachment	.50**	.52**	.37**	.44*
Behavioral	.61**	.65**	.46**	.56**
Cognitive	.51**	.40**	.38**	.50**
Dominance	.34**	.31**	.19	.25*
Emotional	.58**	.58**	.41**	.47**
Self	.39**	.37**	.25*	.25*
TriPM Boldness	-.14	-.17	-.26*	-.36**
TriPM Meanness	.33**	.29**	.35**	.29**
TriPM Disinhibition	.50**	.35**	.50**	.57**

*Note.* \*\* = significant at  $p < .01$ ; \* = significant  $p < .05$

Next, hierarchical multiple regression analyses predicting the HCR-20<sup>V3</sup> scales were conducted. These analyses controlled for PCL-R Total scores in block 1 with the CAPP Total and domain scores or TriPM scales entered on block 2. Results demonstrated that after controlling for PCL-R Total scores, the CAPP Emotional (partial  $R = .31, p = .01$ ) and Cognitive (partial  $R = .26, p = .02$ ) domains predicted scores on the HCR-20<sup>V3</sup> Historical scale, whereas the CAPP Attachment (partial  $R = -.24, p = .03$ ) and Dominance (partial  $R = -.27, p = .02$ ) domains were inversely related to scores on this scale ( $R^2 = .63, \Delta R^2 = .16, F[7, 76] = 18.57, p < .001$ ). The TriPM scales failed to account for a significant amount of variance in the Historical scale after controlling for PCL-R scores ( $R^2 = .56, \Delta R^2 = .06, F[4, 77] = 24.10, p < .001$ ).

The CAPP Behavioral (partial  $R = .40, p < .001$ ) and Emotional (partial  $R = .36, p = .001$ ) domains significantly predicted scores on the HCR-20<sup>V3</sup> Clinical scale, and the CAPP Dominance domain (partial  $R = -.32, p = .004$ ) inversely predicted Clinical scale scores ( $R^2 = .60, \Delta R^2 = .20, F[7, 76] = 16.58, p < .001$ ). Only the TriPM Boldness scale (partial  $R = -.33, p = .003$ ) significantly (and negatively) predicted Clinical scale scores ( $R^2 = .47, \Delta R^2 = .07, F[4, 77] = 17.32, p < .001$ ).

Only the CAPP Dominance domain (partial  $R = -.25, p = .03$ ) significantly and inversely predicted HCR-20<sup>V3</sup> Risk Management scale scores within the institution ( $R^2 = .34, \Delta R^2 = .13, F[7, 76] = 5.60, p < .001$ ) incrementally beyond PCL-R Total scores according to traditional significance levels. However, both the TriPM Meanness (partial  $R = .28, p = .01$ ) and TriPM Boldness scales (partial  $R = -.33, p = .003$ ) accounted for

incremental variance beyond the PCL-R in Risk Management scale scores within the institution ( $R^2 = .39$ ,  $\Delta R^2 = .19$ ,  $F[4, 77] = 12.52$ ,  $p < .001$ ).

The CAPP Behavioral (partial  $R = .26$ ,  $p = .02$ ) and Cognitive domains (partial  $R = .27$ ,  $p = .02$ ) accounted for incremental variance in HCR-20<sup>V3</sup> Risk Management scale scores within the community beyond the PCL-R, and the CAPP Dominance domain (partial  $R = -.24$ ,  $p = .04$ ) inversely predicted scores on this scale according to traditional significance levels ( $R^2 = .45$ ,  $\Delta R^2 = .21$ ,  $F[7, 76] = 8.96$ ,  $p < .001$ ). Additionally, both the TriPM Boldness (partial  $R = -.42$ ,  $p < .001$ ) and Disinhibition scales (partial  $R = .24$ ,  $p = .03$ ) accounted for incremental variance in scores on the Risk Management scale within the community beyond the PCL-R ( $R^2 = .50$ ,  $\Delta R^2 = .25$ ,  $F[4, 77] = 19.51$ ,  $p < .001$ ).

### **Supplementary Analyses**

**CAPP Reliability Corrections.** Given the modest to fair interrater reliability for the CAPP model ratings, correlations correcting for attenuation between this model and the PCL-R and TriPM psychopathy models as well as the criterion variables are provided in Table A3 of the Appendix. In general, results continued to reflect substantial overlap between the CAPP and PCL-R models of psychopathy, with the exception of the CAPP Cognitive domain. In contrast, the correlations between the CAPP Dominance and Emotional domains with TriPM Boldness continued to evince moderate effect sizes. Additionally, the CAPP Dominance domain correlation with interview-rated interpersonal characteristics (IM-P) appeared isomorphic after correcting for reliability attenuation.

**Method Variance as a Potential Moderator.** Given that two of the three psychopathy models investigated in this study are operationalized by interview-based measures, and only one is operationalized via self-report, analyses were conducted to determine the potential impact of method variance on obtained results. First PCL-R Total and facet scores were compared with corresponding scores from the SRP-III (see Appendix Table A1), a self-report measure of psychopathy based on the PCL-R psychopathy model. Correlations across theoretically consistent content domains were in the moderate (Affective, Interpersonal, and Lifestyle facets) to large (Total scores and Antisocial facets) range.

Next, differences between TriPM/PCL-R correlations and TriPM/SRP-III correlations (Appendix Table A1) were examined via Williams T2 analyses (as cited in Steiger, 1980). The correlation between TriPM Boldness and the self-report based SRP-III Interpersonal facet was not significantly larger than the correlation between TriPM Boldness and the PCL-R Interpersonal facet (Williams T2 = 0.19,  $p = .85$ ). Similarly, the correlation between TriPM Disinhibition and the SRP-III Lifestyle facet did not significantly differ from the correlation between TriPM Disinhibition and the PCL-R Lifestyle facet (Williams T2 = 1.31,  $p = .19$ ). These results suggest that method variance does not fully explain the unique variance explained by TriPM Boldness in criterion variables beyond the PCL-R.

In contrast, the correlation between TriPM Meanness and the SRP-III Affective facet was significantly larger than the correlation between TriPM Meanness and the interview-based PCL-R Affective facet (Williams T2 = 5.38,  $p < .001$ ). However, the

correlation between the PCL-R and SRP-III Affective facets was not particularly strong itself ( $r = .31$ ), indicating that self-report inventories designed to capture PCL-R affective traits may not align cleanly with this interview-based measure.

**Supplemental Analyses Regarding TriPM Boldness.** Finally, given the uncertainty regarding the role of Boldness in the psychopathy construct, additional exploratory analyses examined TriPM Boldness in the present study. To begin, the correlation between TriPM Boldness and the PAI validity scale Positive Impression Management (PIM) was calculated ( $r = .40$ , one-tailed  $p = .001$ ) based on a rationally-derived expectation that participants who perceived themselves to be fearless and socially adroit might also present themselves in an unrealistically positive manner.

Next it was important to consider theoretically informed self-reported characteristics on the PAI that might explain variance in TriPM Boldness. To answer this question, a hierarchical multiple regression was conducted controlling for the relationship between PIM and TriPM Boldness. Analyses revealed that grandiose self-worth (MAN-G; partial  $R = .41$ ,  $p = .001$ ) and low fearfulness (ARD-P; partial  $R = -.33$ ,  $p = .01$ ) accounted for a significant amount of variance in TriPM Boldness, whereas self-reported interpersonal dominance (DOM; partial  $R = .19$ ,  $p = .13$ ) did not ( $R^2 = .53$ ,  $\Delta R^2 = .38$ ,  $F[4, 61] = 17.32$ ,  $p < .001$ ).

Given that the ASPD diagnosis is considered by some to largely represent externalizing tendencies, additional analyses were conducted regarding the relationship between TriPM Boldness and the PCL-R Interpersonal and Affective facets ( $r_s = .32$  and  $.16$ , respectively) after controlling for ASPD symptom count. Analyses revealed that the

correlations between TriPM Boldness with the PCL-R facets increased ( $r_s = .42$ , and  $.27$  for Facets 1 and 2, respectively), indicating that ASPD symptom count acts as a suppressor in these relationships.

## CONCLUSIONS

Although the psychopathy construct has been described throughout history and is often introduced in certain types of U.S. criminal cases and civil commitment hearings, researchers have yet to definitively agree on the essential features of this construct. The seminal psychopathy theorist, Hervey Cleckley (1941; 1976), described ostensibly adaptive characteristics inherent to the disorder (e.g., social prowess, anxiety immunity) while minimizing the role of criminality, but these adaptive traits are not emphasized in the conceptual model that underpins the most widely utilized psychopathy instrument, Hare's Psychopathy Checklist-Revised (Hare, 2003). In the midst of debates about the essential components of this disorder, researchers have recently developed the CAPP model (Cooke et al., 2004) and Triarchic model (Patrick et al., 2009), which diminish the conceptual importance of criminality and re-emphasize the role of putatively adaptive features of psychopathy. In light of this uncertainty regarding the core features of psychopathy and given the practical implications of being labeled psychopathic, the present study sought to examine these emergent psychopathy models in relation to Hare's four facet approach and relevant external criterion variables among a sample of male inmates.

### **The CAPP Model of Psychopathy**

The CAPP model was developed as a means to redress the perceived limitations of the PCL-R by de-emphasizing criminal behavior and allowing for the dynamic rather than static assessment of psychopathic personality traits. Results from the present study

demonstrated substantial overlap between the CAPP and PCL-R instruments' total scores. Indeed, the positive correlation was larger than the predicted moderate relationship, although the large effect size between the CAPP and PCL-R total scores was consistent with that reported by Sandvik and colleagues (2012) among a sample of male inmates

An examination of the CAPP domains' bivariate relationships with the PCL-R facets indicates that a substantial proportion of the CAPP model content can be readily tapped by the PCL-R, with the exception of the Cognitive domain. For example, the CAPP Dominance domain preferentially predicted the PCL-R Interpersonal facet, and the CAPP Self domain evinced large positive correlations with the PCL-R Interpersonal and Affective facets but predicted neither preferentially, likely because the Self domain appears to tap content assessed on each facet (e.g., *Inflated sense of self-worth/Egotistical* on the Interpersonal facet and *Fails to accept responsibility* on the Affective facet). These relationships were even stronger after correcting for attenuated reliability in the CAPP ratings (Appendix Table A3).

The pattern of correlations across the remaining three CAPP domains was somewhat murkier. For example, the Attachment domain preferentially correlated with the PCL-R Affective facet, although it also demonstrated moderate to large correlations with all PCL-R facets, suggesting that the CAPP Attachment items (*Detached, Uncommitted, Unempathic, Uncaring*) reflect content tapped across all PCL-R facets. Perhaps the CAPP Attachment items as operationalized by this instrument underlie the more behaviorally based PCL-R items throughout the scale (e.g., *Parasitic Lifestyle* and



*Irresponsible Behavior* on the Lifestyle facet; *Pathological lying* on the Interpersonal facet). A second possible explanation provided by Neumann, Hare, and Johansson (2013) is that personality features such as anxiety immunity and fearlessness are also assessed throughout the PCL-R (e.g., *Shallow Affect* on the Affective facet and *Irresponsible Behavior* on the Lifestyle facet).

A similar picture emerged with the CAPP Behavioral domain, as this domain failed to preferentially predict the PCL-R Interpersonal facet and instead exhibited moderate to large correlations with all PCL-R facets, again demonstrating that the Behavioral domain is related to content assessed throughout the PCL-R. The lead CAPP developer, Cooke, has asserted that the PCL-R Antisocial facet and the criminal behavior represented in that facet's scores are a non-specific *consequence* of psychopathic personality traits rather than behaviors inherent to the construct itself (Skeem & Cooke, 2010a and 2010b). Given this perspective, the result that the CAPP Behavioral domain does not preferentially relate to either the Antisocial or Interpersonal facet, in conjunction with results indicating that the Behavioral domain incrementally predicts relevant criterion variables (described below) beyond the PCL-R, provides some support for the CAPP developers' goal of tapping personality features in their model (Cooke et al., 2004) rather than assessing criminal behaviors per se.

The CAPP Cognitive domain evinced only small to moderate correlations with the PCL-R facets, and this domain failed to preferentially relate to any particular facet. Even after correcting for attenuated reliability in the CAPP, this pattern of small to moderate relationships across these measures remained consistent, suggesting that the

CAPP Cognitive domain alone represents content that is not fully captured by the PCL-R model. Interestingly, the Cognitive domain evinced the highest reliability of the CAPP domains in the present research, and it contains two items (*Lacks Planfulness* and *Lacks Concentration*) that have been rated as not prototypical of psychopathy by international samples of mental health experts and community members (Hoff et al., 2012; Kreis et al., 2012; Smith, Edens, Clark, & Rulseh, 2014; Sörman et al., 2014). The remaining Cognitive domain items consist of *Suspicious*, *Intolerant*, and *Inflexible*. In the present study, no hypotheses were made regarding the Cognitive domain in the prediction of theoretically relevant external criterion variables. However, exploratory analyses indicated that the Cognitive domain incrementally predicted scores on the HCR-20<sup>V3</sup> Historical and Risk Management (within the institution) scales beyond PCL-R Total scores, although these effect sizes were small. It remains a question for future research regarding whether the Cognitive domain adds incrementally to our understanding of the psychopathy construct.

**The CAPP Model and Concurrent Validity.** Several a priori hypotheses regarding the CAPP domains' correlations with criterion variables were supported. As predicted, the CAPP Dominance domain correlated with TriPM Boldness, the Attachment and Emotional domains evinced moderate positive correlations with TriPM Meanness, and the Behavioral domain moderately positively correlated with TriPM Disinhibition. Additionally, the CAPP Dominance domain positively correlated with self-report and interview-based measures of interpersonal dominance, and the CAPP Behavioral domain positively correlated with self-reported externalizing

psychopathology. Unexpectedly, the CAPP Attachment and Emotional domains exhibited modest positive correlations with self-reported internalizing psychopathology in contrast to the predicted inverse correlations with these criterion variables. This result contrasts with prior large-scale research among offenders (Blonigen et al., 2010) reporting negative correlations exhibited by the PCL-R Interpersonal and Affective facets with broadband internalizing psychopathology tendencies. Reasons for these unexpected modest positive correlations in the present study are unclear. However, the internalizing variable examined here was created by summing three PAI scales (Anxiety, Anxiety-Related Disorders, and Depression). After dividing the mean of this summed variable by three, the approximate mean score on each scale would be one standard deviation above the mean for the PAI normative sample, perhaps suggesting that overall, inmates in the present study were self-reporting elevated internalizing psychopathology. Given that this sample was drawn from a pre-trial setting and most participants had recently been incarcerated, an increase in anxiety and depression symptoms would be expected and may partially account for the results obtained. (Although as described in more detail below, the inverse correlation between TriPM Boldness and internalizing was obtained and remained robust after controlling for PCL-R scores.)

Additionally, CAPP Dominance failed to negatively correlate with a measure of self-reported interpersonal warmth and was orthogonally related to this variable instead. An inspection of the PAI Warmth scale items revealed that approximately half of the items on this scale pertain to extraversion, and the remaining items assess content indicative of tendencies to be affectionate and to desire close relationships. The item

content and associated low scores on this scale do not reflect a severely pathological absence of a desire for interpersonal affiliation as would be expected with psychopathy. Given that the PCL-R Affective facet evinced only a modest, nonsignificant inverse correlation and TriPM Meanness evinced a modest, negative but significant correlation with self-reported warmth, perhaps these explanations account for the diminished relationship between the psychopathy models and the PAI operationalization of interpersonal warmth.

In hierarchical regression analyses, after controlling for PCL-R Total scores, only the a priori hypotheses regarding the CAPP Dominance domain positively predicting self-reported and interviewer-rated dominance were supported. However, in exploratory hierarchical regression analyses, the CAPP Emotional and Cognitive domains predicted HCR-20<sup>V3</sup> Historical scale scores, and the CAPP Attachment and Dominance domains inversely predicted scores on this scale incrementally beyond the PCL-R Total scores. Additionally, the CAPP Behavioral and Emotional domains incrementally predicted HCR-20<sup>V3</sup> Clinical scale scores beyond the PCL-R, and the CAPP Dominance domain continued to inversely predict scores on this scale. Similarly, the CAPP Dominance domain inversely predicted HCR-20<sup>V3</sup> Risk Management scale scores both within the institution and in the community beyond PCL-R Total scores, and the CAPP Behavioral and Cognitive domains accounted for incremental variance in HCR-2<sup>V3</sup> Risk Management scores in the community beyond the PCL-R. These effect sizes were generally small, however, with the exception of the moderate partial correlations exhibited by the Emotional and Behavioral domains in the prediction of HCR-20<sup>V3</sup>

Clinical scale scores and the moderate inverse relationships between CAPP Dominance and HCR-20<sup>V3</sup> scale scores.

The aforementioned results regarding the CAPP domains' incremental prediction of perceived violence risk beyond the PCL-R indicate that, to the extent that psychopathic traits are related to violence risk, the benefits of dynamic, lexically-based assessment provided by the CAPP may indeed provide valuable information necessary to inform decision-making beyond the PCL-R's static ability to assess psychopathic features. This association with perceived violence risk persists despite the results indicating that much of the CAPP content is already tapped by the PCL-R. However, this remains a question for future prospective, longitudinal research. Additionally, the large positive correlations evinced between domains throughout this instrument raise questions regarding the extent to which psychopathic traits are diffusely assessed by this instrument rather than being captured by specific domains.

**The CAPP: Problematic Interrater Reliability.** It is also important to note that the reliability coefficients for the CAPP ratings conducted in the present study were less than optimal in contrast to the generally high or acceptable reliability obtained for the PCL-R, ASPD, and HCR-20<sup>V3</sup> ratings. In comparison to ICC's obtained in raters from the Pedersen et al. (2010) study, ICC's from the present study were lower on 4 of the 6 CAPP domains, but a similar range of ICC's (.33 to .72 and .44 to .79 in the present study and comparison sample, respectively) and a pattern of lower ICC's on particular domains (e.g., the Dominance and Self domains) emerged across the two samples.

What may have contributed to the lower interrater reliability for the CAPP in the present study in comparison to the relatively good reliability obtained for the other interview-based instruments in the present study? Perhaps most importantly, reliability ratings for the present study were based on a review of the original rater's interview notes and file review information. Because of the CAPP model emphasis on lexically-based personality characteristics, reliability raters may have had difficulty assessing the presence of these traits based solely from interview notes without interacting with participants themselves in the interview. Additionally, CAPP ratings were made based on evidence from the past six months rather than the person's lifetime. While this ability to dynamically assess psychopathy is a potential benefit of the CAPP instrument, it may have been challenging for the reliability raters to disentangle information and alternate between providing static, lifetime item ratings for the PCL-R and CAPP ratings based on the past six months (e.g., by disregarding criminal charges incurred or file review information dated prior to the six month time frame that indicate impulsivity, aggression, or interpersonal dominance, etc.).

One potential problem may derive from the rating scale for the instrument itself. The PCL-R and HCR-20<sup>V3</sup> items are rated on a three point scale (0-2) whereas the CAPP items are rated on a seven point Likert scale (0-6). This substantially broader scoring range may impact interrater reliability by (1) increasing the overall range of possible scores and consequently lowering the probability that absolute agreement on a single numeric value will be obtained across raters as well as (2) creating inherent difficulty in determining an appropriate score for an item by providing an excess of

ratings choices that may not be easily distinguishable from each other (e.g., 3-Moderate vs. 4-Moderately Severe). With regards to the broad Likert scale contributing to diminished interrater reliability, an inspection of the bivariate correlations between the original and reliability ratings obtained in the present study reflected that the continuous bivariate relationship was essentially indistinguishable from the absolute reliability coefficients, suggesting that the broad Likert scale range did not explain the modest reliability obtained for this instrument in the present study. However, the impact of the latter potential contributor (i.e., indistinguishable categories along the Likert scale) remains unknown. The CAPP manual provides instructions for rating the items on the broad Likert scale, but when assessing personality traits, the differences in ratings across this range may be too obscure to confidently resolve, at least in the present sample. One limitation of the present study that may have helped to address this question is that evaluators' confidence in ratings ascribed was not assessed.

Aside from the potential problems associated with this instrument's broad scoring range, the CAPP manual provides fairly succinct item descriptors in comparison to the PCL-R and HCR-20<sup>V3</sup>. Indeed, item descriptions for each of the latter instruments consist of multiple paragraphs for each item whereas the CAPP item descriptions consist of a single sentence defining the item in terms of the three associated adjective descriptors (e.g., *Uncommitted*: Unfaithful, Undevoted, Disloyal) as well as bullet-pointed behaviors and characteristics that may indicate trait manifestation. Although the CAPP is a lexically-based model (Cooke et al., 2012) designed as such to

facilitate interpretation of the items, further item description from the developers may aid in increasing interrater reliability.

### **The Triarchic Model and Boldness**

Patrick and colleagues' Triarchic model of psychopathy was developed to assess three main components of psychopathic traits, two of which (callous, remorseless interpersonal tendencies or *Meanness* and impulsive externalization tendencies or *Disinhibition*) are thought already to be well-represented in the PCL-R psychopathy model and one (a fearless, socially facile temperament or *Boldness*) that the PCL-R purportedly fails to adequately assess (Patrick et al., 2009). In the present study, the Triarchic model of psychopathy was operationalized via a self-report instrument, the Triarchic Psychopathy Measure (Patrick, 2010). Interestingly, results reflected that TriPM Boldness and Disinhibition exhibited a small negative correlation. Although this result was unexpected, it is generally consistent with results from another offender sample (Stanley et al., 2013). Patrick (personal communication, February 28, 2014) surmised that the externalizing tendencies tapped by Disinhibition may be so saturated in offender samples that the relationship with Boldness is impacted such that an orthogonal or negative relationship is formed.

As expected, the TriPM Meanness and Disinhibition scales evinced small to large positive correlations with PCL-R facets. Also as predicted, the Boldness scale was largely orthogonal with the overall PCL-R Total score. Additionally, TriPM Boldness exhibited a moderate positive correlation ( $r = .32$ ) with the PCL-R Interpersonal facet and a small negative correlation with the Antisocial facet. The correlation between



TriPM Boldness and the PCL-R Interpersonal facet is similar to the small but significant correlation ( $r = .21$ ) exhibited in meta-analytic research (Marcus et al., 2012) between the PPI Fearless Dominance factor (which has been deemed conceptually similar to Boldness) and PCL-R Factor 1 (comprised of the Interpersonal and Affective facets). Further, TriPM Boldness demonstrated small positive correlations with the CAPP Dominance and Self domains.

**Method Variance.** In their seminal article, Campbell and Fiske (1959) discussed the inherent difficulty of obtaining optimal correlations between variables when the variables derive from different assessment methods (e.g., interview vs. self-report). More recently, Blonigen et al. (2010) investigated this issue of method variance within the psychopathy research literature and demonstrated that self-report psychopathy assessment methods preferentially related to self-report criterion variables, and the same held true for an interview-based psychopathy assessment model (the PCL-R) with interview-based criterion variables.

As such, it was important to determine in the present study to what extent correlations derived between the TriPM, a self-report measure, and interview-based measures of psychopathy might be attenuated due to method variance. The SRP-III (Paulhus et al., in press), a self-report measure of psychopathic traits, was developed to approximate the four-facet PCL-R model of psychopathy, and it was administered in the present study to aid in addressing the question regarding the role that method variance might play in the correlations between the TriPM and the PCL-R. The correlations between the PCL-R Total score and facet scores and their corresponding SRP-III facet

scores demonstrated moderate to large effect sizes. Comparisons between the TriPM and SRP-III indicated that TriPM Meanness and Disinhibition exhibited moderate to large positive correlations with the SRP-III Total score and all facet scores, consistent with results reported by Drislane et al. (2013) in a large undergraduate sample. In particular, TriPM Meanness evinced moderate and large correlations with the SRP-III Interpersonal and Affective facets, respectively, and TriPM Disinhibition demonstrated moderate positive correlations with the Lifestyle and Antisocial facets. Importantly, however, the moderate correlation between TriPM Boldness and the SRP-III Interpersonal facet remained essentially unchanged ( $r$  increased from .32 to .34 for the correlations with the PCL-R and SRP-III Interpersonal facets, respectively). This result suggests that the generally modest or orthogonal correlations between TriPM Boldness and the PCL-R are not solely due to method variance. Further, if this finding regarding the negligible role of method variance is also replicated in terms of the small correlations evinced between TriPM Boldness and the CAPP Dominance and Self domains, then the CAPP psychopathy model as currently configured likely fails to adequately capture the Boldness component as well.

**Boldness and Concurrent Validity.** If Boldness taps a relatively large amount of unique variance not assessed by the PCL-R as suggested by Patrick and colleagues (2009) and as supported by results from the present study, what unique content does it capture? All a priori hypotheses regarding TriPM Boldness and external criterion variables were supported; Boldness positively correlated with self-report and interviewer-rated measures of interpersonal dominance, and TriPM Boldness was

inversely correlated with self-reported internalizing psychopathology tendencies.

Further, TriPM Boldness continued to predict self-reported interpersonal dominance and inversely predicted self-reported internalizing psychopathology even after controlling for PCL-R Total scores. Exploratory hierarchical regressions indicated the TriPM Boldness scores inversely predicted scores on the HCR-20<sup>V3</sup> Clinical and Risk Management scales (both within the institution and in the community) beyond the PCL-R Total scores as well.

The aforementioned results may seem to support critics' assertions that Boldness is largely inversely related to negative outcomes and therefore is comprised of adaptive characteristics unessential to the psychopathy construct. Data from the present study do not allow for investigations into violence or institutional misconduct, variables which are typically of interest in psychopathy research and indicative of maladaptive behaviors. However, post hoc results investigating the IM-P subscales reflected that Boldness moderately positively correlated with scores on the IM-P Grandiosity subscale, the content of which reflects narcissistic behaviors, verbalized ethical superiority, and attempts to portray oneself as "tough." The correlation between Boldness and this variable clearly would not be considered adaptive.

Further, results from a separate investigation of the TriPM within a sample of Finnish military recruits indicated that high scores on Boldness differentiated the primary and secondary psychopathy subgroups identified via cluster analytic techniques (Drislane et al., 2014). Additionally, a prospective study of Boldness features assessed via a different self-report psychopathy scale (the PPI-FD factor) indicated that

psychiatric inpatients with high scores on both Boldness and Disinhibition features were most likely to commit acts of predatory aggression (Smith, Edens, & McDermott, 2013). Unfortunately, data from the present study are not available to address this question, and most studies exploring the relationship between psychopathic traits and violence have utilized an overall aggression variable rather than specific subtypes of aggressive behavior. These results clearly do not support the assertion that Boldness represents merely adaptive features, especially when it is found in conjunction with other Triarchic Model components.

Supplementary analyses were conducted attempting to answer what self-reported personality and psychological tendencies might account for variance in TriPM Boldness scores within the present sample. Based on rationally-derived expectations, PAI scales assessing self-reported fearfulness, exaggerated self-worth, interpersonal dominance, and defensive response style were regressed onto TriPM Boldness. After controlling for a defensive response style (i.e., given the positive correlation between TriPM Boldness and PAI PIM scores) exaggerated self-worth positively predicted and fearfulness inversely predicted scores on TriPM Boldness, with these scales evincing moderate effect sizes and the overall model accounting for over 35% of the variance beyond that accounted for by PIM. Interestingly, in a study of police applicant job performance, Lowmaster and Morey (2012) reported that PAI exaggerated self-worth positively correlated and PAI fearfulness inversely correlated with police officers' documented problems with unethical job behaviors and dishonesty. The correlations for self-reported fearfulness and poor job performance remained significant after correcting for the

moderating effects of a defensive response style. Given that these two PAI subscales accounted for a significant amount of variance in TriPM Boldness in the present sample, the results reported by Lowmaster and Morey (2012) may actually represent an association between Boldness and “bad” outcomes in a non-offender sample.

Interestingly, exploratory analyses in the present study demonstrated that when controlling for ASPD symptom count, the correlations between TriPM Boldness and the PCL-R Interpersonal and Affective facets increased, indicating a suppressor effect of ASPD symptoms on these correlations. These results suggest that the PCL-R Interpersonal and Affective facets tap psychopathic traits somewhat differently once the underlying externalizing component is extracted, thus evincing a stronger relationship with Boldness features.

**Meanness and Concurrent Validity.** In the present study, TriPM Meanness evinced small to moderate positive correlations with the PCL-R Interpersonal and Affective facets as hypothesized, and it exhibited large positive correlations with these same facets on a self-report inventory (SRP-III). Although there was a moderate correlation ( $r = .30$ ) between the TriPM Meanness and Boldness scales, a disparate pattern of correlations with external criterion variables indicated that these Triarchic Model components are indeed tapping unique variance distinct from one another. For instance, as predicted, TriPM Meanness demonstrated a small inverse correlation with self-reported warmth (PAI WRM), whereas TriPM Boldness evinced a moderate positive correlation with this variable. However, TriPM Meanness failed to account for incremental variance in self-reported warmth beyond PCL-R total scores. The relatively

weak relationship between TriPM Meanness and interpersonal warmth may be explained by the PAI operationalization of this construct as discussed previously in regards to results obtained with the CAPP Dominance domain.

Further, exploratory analyses revealed that TriPM Meanness evinced small to moderate positive correlations with perceived violence risk as assessed by the HCR-20<sup>v3</sup> scales. In contrast, TriPM Boldness was inversely correlated with these variables. After controlling for PCL-R Total scores, TriPM Meanness continued to predict perceived violence risk management within the institution but failed to do so for the remaining HCR-20<sup>v3</sup> scales. These results suggest that TriPM Meanness seems to tap much of the same variance associated with the Interpersonal and Affective facets of the PCL-R model of psychopathy.

**Disinhibition and Concurrent Validity.** Results from the present study supported the hypothesis that TriPM Disinhibition would demonstrate moderate positive correlations with the PCL-R Lifestyle and Antisocial facets, and similar results were obtained between TriPM Disinhibition and the self-reported operationalization of these facets. Also as expected, TriPM Disinhibition evinced a moderate positive correlation with self-reported externalizing tendencies (PAI EXT), and this correlation remained robust even after controlling for PCL-R Total scores. Additionally, exploratory analyses revealed that TriPM Disinhibition moderately positively correlated with perceived violence risk, although only the prediction of perceived risk for violence risk management in the community persisted after controlling for PCL-R Total scores. Similar to conclusions regarding the TriPM Meanness scale, TriPM Disinhibition

appears to exhibit much overlapping variance with the PCL-R Lifestyle and Antisocial facets.

### **Limitations and Future Directions**

Limitations of this research should be noted. Given the number of exploratory analyses conducted in this study, some might have concerns that a more stringent alpha value was not employed to decrease the probability of Type I errors. However, traditional significance levels were utilized because: (1) the number of a priori hypotheses was relatively small and the remaining analyses were clearly denoted as exploratory (2) the power to detect significant effects would have been substantially diminished had an alpha correction been utilized that reflected the number of analyses conducted (3) results were described with an emphasis on effect sizes rather than significance levels (4) many hypothesized results demonstrated large effect sizes and (5) many results in the present study corresponded with results obtained in other studies.

Another limitation is that the results for the present study were obtained within a sample of male inmates in a pre-trial setting. As such, it is unclear to what extent results would generalize to other settings (e.g., other geographic locations, post-adjudication settings) and samples (e.g., female inmates, psychiatric inpatients).

Because the sample was drawn from a pre-trial setting, uncertainty regarding participants' legal status resulted in scoring obstacles for some of the interview-based instrument items (e.g., HCR-20<sup>V3</sup> item H1: History of Violence). (For a thorough review of problems encountered when scoring the HCR-20<sup>V3</sup>, see Smith, Kelley, Rulseh, Sörman, & Edens, 2014.) Legal status uncertainty in conjunction with

somewhat limited file information (e.g., medical files pertaining to mental health history based primarily on inmate self-report) may have impacted the results obtained.

Additionally, given the relatively small sub-samples within the overall sample, it was difficult to look at differences in results across ethnicity to any meaningful degree.

Similar research should be conducted in larger sample sizes to appropriately investigate this issue. Further, participants in the present study were assured confidentiality. It is unclear to what extent results might differ in settings where confidentiality is not assured, particularly in the context of forensic evaluations for legal determinations.

Finally, interrater reliability data for the IM-P could not be ascertained due to the nature of data collection. Interrater reliability was assessed based on written notes from the original rater's interview notes and file review information, and this information was not substantial enough to evaluate idiosyncratic behaviors exhibited by participants during the interview necessary for scoring the IM-P.

Given the preceding results, future studies should be conducted to further investigate the dominant and emergent psychopathy models in larger, more diverse samples in disparate settings to address the extent to which results obtained may generalize to other populations and settings. Additionally, although results in the present study suggested that method variance was not solely responsible for the small correlations between Boldness and the PCL-R model of psychopathy, it would be beneficial for researchers to develop an interview-based instrument that assesses the Triarchic Model components to negate any potential impact of method variance in studies comparing this model with other interview-based measures of psychopathy. Hall



(2010) has developed an interview-based measure to assess the Boldness construct, although currently, no similar measures have been developed to assess the Disinhibition and Meanness components.

Large scale research studies should be conducted utilizing the interview-based CAPP-IRS ratings so that exploratory and confirmatory factor analysis can be conducted to ascertain the underlying factor structure of this instrument. Also, to better understand the role of Boldness in the psychopathy construct and the putatively adaptive traits tapped by this construct, future longitudinal research should be conducted in large samples that continue to examine the role of this Triarchic component and “bad” outcomes (e.g., aggression subtypes, white-collar crime, interpersonal problems), particularly in cases of interactions between high scores on Boldness and Disinhibition and/or Meanness. Finally, although the present study could not directly address this issue, given the practical and legal implications of diagnoses of psychopathy and ASPD, research on the distinction (or lack thereof) between psychopathy and ASPD is clearly warranted so that a consensus among researchers and clinicians can be reached.

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## APPENDIX

Table A1

Correlations between SRP-III and PCL-R, CAPP, TriPM, and ASPD Symptoms

	SRP-III Total	Facet 1	Facet 2	Facet 3	Facet 4
PCL-R Total	.57**	.43**	.35**	.46**	.50**
Factor 1	.38**	.39**	.35**	.19	.25*
Factor 2	.57**	.34**	.26*	.56*	.57**
Facet 1	.42**	.47**	.32**	.23*	.26*
Facet 2	.27*	.23*	.31**	.12	.18
Facet 3	.46**	.28*	.21	.48**	.43**
Facet 4	.54**	.31**	.25*	.50**	.57**
CAPP Total	.52**	.49**	.47**	.30**	.34**
Attachment	.49**	.46**	.44**	.28*	.33**
Behavioral	.54**	.42**	.40**	.39**	.45**
Cognitive	.35**	.28*	.26*	.23*	.31*
Dominance	.42**	.47**	.40**	.20	.22*
Emotional	.41**	.34**	.40**	.22*	.31**
Self	.38**	.42**	.41**	.18	.18
ASPD Symptoms	.45**	.33**	.35**	.33**	.36**
IM-P	.31**	.31**	.22	.25*	.18
TriPM Boldness	.25*	.34**	.32**	.21	-.09
TriPM Meanness	.69**	.62**	.76**	.42**	.33**
TriPM Disinhibition	.64**	.40**	.30**	.60**	.64**

Note. \*\* = significant at  $p < .01$ ; \* = significant  $p < .05$

Table A2

## Correlations of Psychopathy Models with IM-P and ASPD Criterion Variables

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	IM-P	ASPD
PCL-R Total	.47**	.78**
Factor 1	.62**	.60**
Factor 2	.25*	.73**
Facet 1	.69**	.48**
Facet 2	.42**	.61**
Facet 3	.32**	.60**
Facet 4	.14	.68**
CAPP Total	.64**	.70**
Attachment	.46**	.64**
Behavioral	.41**	.69**
Cognitive	.43**	.47**
Dominance	.73**	.54**
Emotional	.46**	.61**
Self	.60**	.54**
TriPM Boldness	.23*	-.09
TriPM Meanness	.13	.30**



Table A2 Continued

	IM-P	ASPD
TriPM Disinhibition	.18	.36**

*Note.* \*\* = significant at  $p < .01$ ; \* = significant  $p < .05$

Table A3

## CAPP Correlations Corrected for Reliability Attenuation

	CAPP Total	Attach	Behav	Cog	Dom	Emot	Self
PCL-R Total	.74**	.74**	.68**	.43**	.59**	.60**	.63**
	<i>1.10</i>	<i>1.18</i>	<i>0.97</i>	<i>0.54</i>	<i>0.91</i>	<i>0.87</i>	<i>1.13</i>
Facet 1	.71**	.57**	.49**	.32**	.79**	.44**	.73**
	<i>1.15</i>	<i>0.99</i>	<i>0.76</i>	<i>0.44</i>	<i>1.33</i>	<i>0.69</i>	<i>1.42</i>
Facet 2	.65**	.72**	.46**	.28**	.52**	.57**	.63**
	<i>1.09</i>	<i>1.29</i>	<i>0.73</i>	<i>0.40</i>	<i>0.90</i>	<i>0.93</i>	<i>1.26</i>
Facet 3	.49**	.51**	.55**	.34**	.31**	.37**	.40**
	<i>0.72</i>	<i>0.81</i>	<i>0.77</i>	<i>0.46</i>	<i>0.47</i>	<i>0.53</i>	<i>0.71</i>
Facet 4	.48**	.49**	.59**	.39**	.26**	.52**	.27**
	<i>0.69</i>	<i>0.92</i>	<i>0.76</i>	<i>0.48</i>	<i>0.39</i>	<i>0.73</i>	<i>0.47</i>
TriPM Boldness	.14	.10	.02	-.15	.28**	-.02	.27**
	<i>0.19</i>	<i>0.15</i>	<i>0.03</i>	<i>-0.18</i>	<i>0.40</i>	<i>-0.03</i>	<i>0.45</i>
TriPM Meanness	.48**	.44**	.49**	.32**	.37**	.37**	.39**
	<i>0.67</i>	<i>0.66</i>	<i>0.65</i>	<i>0.38</i>	<i>0.53</i>	<i>0.50</i>	<i>0.65</i>
TriPM Disinhibition	.35**	.28**	.50**	.24*	.22*	.29**	.21*
	<i>0.49</i>	<i>0.42</i>	<i>0.66</i>	<i>0.28</i>	<i>0.32</i>	<i>0.39</i>	<i>0.35</i>
PAI EXT			.53**				
			<i>0.70</i>				
PAI INT		.25*				.29*	
		<i>0.37</i>				<i>0.39</i>	
PAI DOM					.35**		
					<i>0.51</i>		
PAI WRM					.01		
					<i>0.01</i>		
PAI IM-P					.73**		
					<i>1.12</i>		

*Note.* \*\* = significant at  $p < .01$ ; \* = significant  $p < .05$ ; Correlations corrected for reliability attenuation are located in italicized font on the rows below each row of correlations originally derived.